NEW EQUIPMENT DIGEST

A Penton Publication

April, 1957

Volume 22—Number 4

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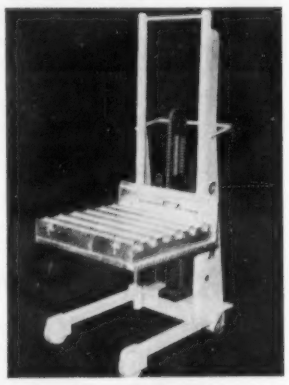
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 112

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

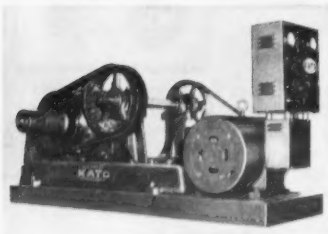
HYDRAULIC LIFT
500 and 1000-lb capacities



Dies and other similar loads are easily handled by the manually-operated E-Z hydraulic lift, available in 500 and 1000-lb capacities. Its platform or table has six full-width rollers on which dies are easily rolled into position at the machine or into storage racks. Front of table has an adjustable steel retainer to hold the die during moving of the lift. Overload - protected lifting device has a range from 7 to 57 in. above the floor. Lift modifications can be supplied for special uses. Made by **Crown Controls Co.**, 50 S. Washington St., New Bremen, O.

▲ For more details circle **NED-1 D7** on enclosed inquiry slip ▲

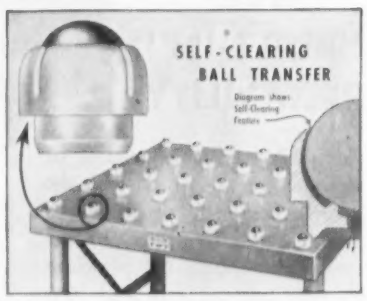
VARIABLE FREQUENCY GENERATOR
adjustable from 380 to 420 cycles



Pushbutton control permits instant selection of output frequency of this 5-kw alternating current motor-generator set from 380 to 420 cycles per second. The 14-pole alternator supplies three-phase 120/208-v ac and is driven through a variable speed pulley by a 7½-hp motor. A small motor adjusts the pitch of the pulley. Control panel containing voltmeter, ammeter, rheostat and voltage regulator is built to customer specifications. Made by **Kato Engineering Co.**, 1464 First Ave., Mankato, Minn.

▲ For more details circle **NED-2 D7** on enclosed inquiry slip ▲

BALL TRANSFER UNIT
has nonclogging ball retaining cups



Bottom of retaining cup of this ball transfer unit is (inset) entirely open to permit self-cleaning and prevent clogging. Cup of Metzgar-Nylo supports the ball on friction-reducing protrusions that require no lubrication. Ball can be snapped in or out without tools for cleaning. Entire unit is impervious to steam cleaning, brine, detergents, mild acids, alkalies, oil, grit and weather conditions. Standard unit protrudes 15/16-in. above the 3/16-in. steel plate in which it is pressure mounted. One-inch chrome alloy steel ball is standard, but stainless steel, Monel, Metzgar-Nylo and other special balls can be ordered. "Do-it-yourself" units are offered with an 18-gage formed steel triangular base with three 3/16-in. bolt holes for surface mounting. Made by **Metzgar Conveyor Co.**, Dept. NED, 412 Douglas St. N.W., Grand Rapids 4, Mich.

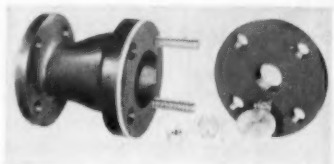
▲ For more details circle **NED-3 D7** on enclosed inquiry slip ▲

STEAM-TRACED PIPING
in 1½, 2, 3 and 4-in. pipe sizes

One-piece, steam-traced aluminum piping, available in 1½, 2, 3 and 4-in. nominal sizes, is now made with cross-section matching standard pipe. When first introduced, Unitrace piping was oval in shape. The integral steam passage serves to keep piped liquid hot during transit. This new design boosts efficency by increasing the transfer of heat internally and cutting the heat-loss of external radiation. Made by **Aluminum Co. of America,** Dept. NED, 1501 Alcoa Bldg., Pittsburgh 19, Pa.

▲ For more details circle **NED-4 D7** on enclosed inquiry slip ▲

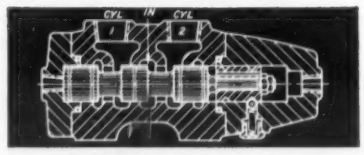
SWING CHECK VALVE
is rubber-lined horizontal unit



Body of this horizontal swing check valve for acid and chemical lines is made of rubber-lined cast iron or fabricated steel. Trim can be any alloy, hard rubber, plastic or Teflon. Offered in sizes from 1 to 14 in. valve has negligible flow reduction, or loss of head. Made by **La Favorite Rubber Mfg. Co.**, 273 Wagaraw Rd., Hawthorne, N. J.

▲ For more details circle **NED-5 D7** on enclosed inquiry slip ▲

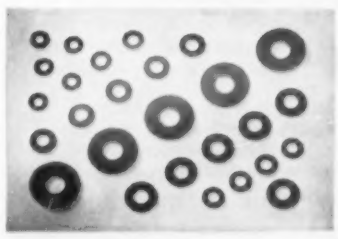
FOUR-WAY HYDRAULIC VALVE
¼ to 1½-in. sizes rated 1500 psi



Model 5835 four-way hydraulic valve is oil pressure operated by oil pilot valve, permitting automatic operation when oil pilot is controlled mechanically. Ball detents hold valve piston in either end position after pilot pressure has been removed. As shown, inlet is connected with cylinder port 2 and exhaust is connected with port 1 when pilot pressure is applied on right side of valve. Designed for 1500 psi service, valves are offered in ¼, ⅜, ½, ¾, 1, 1¼ and 1½ in. sizes. Simplicity of floating piston design assures leakproof operation and smooth opening and closing. Made by **Rivett, Inc.**, Dept. NEP-2, Brighton 35, Boston, Mass.

▲ For more details circle **NED-6 D7** on enclosed inquiry slip ▲

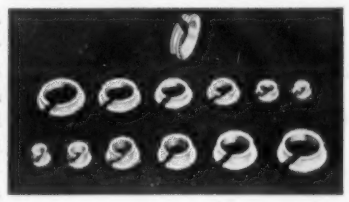
NYLON WASHERS
five sizes for up to ¼-in. screws



Black nylon washers are offered in five sizes to fit screws from No. 4 to ¼-in. Sizes range from 9/32 to 11/16-in. OD and from 0.020 to 0.040-in. thick. Intended for use where dielectric and other properties of nylon are desired, they can also be used with companion molded nylon screws and nuts. Made by **Weckesser Co.**, Dept. NDC, 5701 Northwest Highway, Chicago 30, Ill.

▲ For more details circle **NED-7 D7** on enclosed inquiry slip ▲

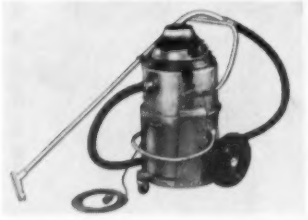
NYLON BEARINGS
snap into sheet metal, thin plates



Flanges on both ends of Snap-In Nyliner type 7 nylon bearings retain them in a hole in sheet metal or thin plates of any material. One of the flanges has sufficient area to take thrust loads. Helical split or gap compensates for expansion and contraction of nylon due to temperature changes and moisture absorption. This prevents changes in bore diameter. Snap-in design speeds installation. Self-lubricating, they damp mechanical vibration and have increased life. Lengths for plate thicknesses from 0.040 to 0.075-in. and 0.072 to 0.135-in. are available in nine sizes with bore diameters from ⅛ to ¾-in. Made by **Thomson Industries, Inc.**, 1035 Plandome Rd., Manhasset, N. Y.

▲ For more details circle **NED-8 D7** on enclosed inquiry slip ▲

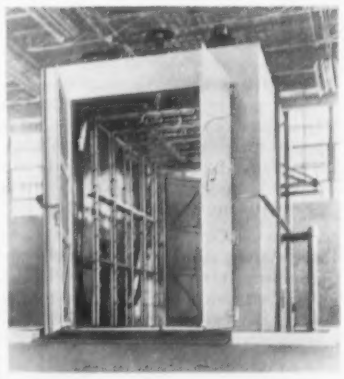
VACUUM CLEANER & BLOWER
full tank is easily removed



Even when filled to its 1 2/3 bu or 10 gal capacity, tank of model 75 Turbo-Vac vacuum cleaner and blower is easily removed. Foot-operated Auto-Lift places the tank in a convenient lift-out position. Dust, dirt or water cannot get into the 1-hp by-pass type motor. Intake volume is 135 cfm of air, and filter area is 1000 sq in. Machine has a plastisol-lined steel tank, two 12-in. wheels and one 3-in. swivel caster. Applications include boiler, rug, wall and wet or dry bare floor cleaning. Made by **Kent Co.**, 827 Canal St., Rome, N. Y.

▲ For more details circle **NED-9 D7** on enclosed inquiry slip ▲

WASHING & PROCESSING MACHINE
for large, odd-size metal products



Cabinet type washing and processing machine for large, odd-size metal products provides timed wash and rinse cycles which can be preset for any desired period. Operation is automatic. Machine is installed in a pit at track level, and parts are loaded on special trucks which are pushed into the cabinet. Full spray coverage from four sides is supplied by separate wash and rinse piping mounted on reciprocating carriages. Cleaning and phosphate coating materials may be used in the wash tanks. Individual pump and tank units are furnished for each solution. Hot parts dry quickly on removal. Machine shown accommodates loaded truck measuring 10 x 4 x 6½ ft. Made by **Alvey-Ferguson Co.**, Dept. NE, 1231 Disney St., Cincinnati 9, O.

▲ For more details circle **NED-10 D7** on enclosed inquiry slip ▲

EFFECTIVE EFFICIENT ECONOMICAL

ZAGAR STANDARD MACHINE TOOL SIZES FIT ALL MAKES

way to HOLD your work—and your business WITH

Zagar COLLETS

Don't be caught short! Keep a supply of Zagar collets on hand. Five types: No. 310 Zagar Master; Nos. 2 and 6 W. & S.; No. 5-C; No. 6 W. & S. pads. All but Zagar No. 310 are standard machine tool sizes. All collets are made of oil-hardened tool steel; have flat tops for locating purposes.

Order by mail for shipment from stock.

Ask for Catalog N-4.

ZAGAR, INC. 23880 LAKELAND BLVD., CLEVELAND 23, OHIO

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

For more details circle NED-11 D7 on enclosed inquiry slip

COWLES DISSOLVERS MULTIPLY ULTIMATE DISPERSION VOLUME

For faster processing, improved quality, greater yields, lower power consumption, try the revolutionary Cowles Dissolver in your own plant, at no risk to you. Let us prove on your own materials that this compact, efficient machine can give you ultimate dispersion *up to 20 times faster* than ordinary mixers—in less space, at less cost, and with much greater profit.

Use the Cowles Dissolver to your advantage for ultimate dispersion, dissolving, deagglomeration, emulsifying and homogenizing of all liquid-liquid, gas-liquid and solid-liquid products, including paints, inks, chemicals, pharmaceuticals, foods, beverages and many others. There is a wide variety of models to choose from.

Benefit now from the advanced design of the patented Cowles impeller which operates at peripheral speeds of 3600 to 6000 F.P.M., creating intense turbulence and shearing action. See how it swiftly breaks down agglomerates to ultimate size, and surrounds each particle with liquid.

Convenient lease and time-payment plans

Write Today on your letterhead, for full details and in-plant demonstration at no risk to you.

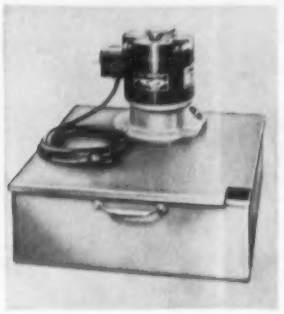
MOREHOUSE COWLES

MOREHOUSE-COWLES, INC.
1150 San Fernando Rd., Los Angeles 65, Calif.
Distributors in principal cities

5708

For more details circle NED-12 D7 on enclosed inquiry slip

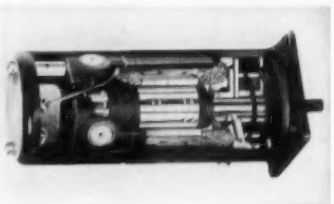
PACKAGED COOLANT UNIT supplies up to 3000 gph



Self-contained, and thus suited for permanent or portable use, the model 7500A-T coolant supply unit can be used on machine tools of various sizes. Heavy duty pump driven by a 1/8-hp, 110-v, 60-cycle motor is mounted on a steel tank with built-in baffle that eliminates chips from the coolant stream. Packaged unit includes built-in switch, 6-ft electric cord and two 6-ft heavy duty hoses with valve and nozzle. Handles facilitate emptying and carrying. Made by **Brady Pump Corp.**, 1003 E. Eighteenth St., Muncie, Ind.

For more details circle NED-13 D7 on enclosed inquiry slip

FRACTIONAL HP MOTORS 1/20 to 1/8-hp sizes for 26-v use



Electromechanical brake with high holding torque, integral radio noise filter, adjustable brake gap and steel strengthening inserts in the aluminum housing are features of this line of lightweight fractional horsepower direct current motors. The 26-v dc motors range from 1/20 to 1/8-hp and weigh from 15 to 22.5 oz. They are wound for operation in ambient temperatures up to 70° C and meet MIL-M-8609 (ASG) specifications. Made by **Lundy Mfg. Corp.**, Dept. N, 36-08 33rd St., Long Island City 6, N. Y.

For more details circle NED-14 D7 on enclosed inquiry slip

V-RING ADAPTORS molded to close nominal ID and OD

Phenolic resin and fabric used in Phenol-Fab adaptor rings for hydraulic V-ring sets are molded at high temperature to produce a hard, tough composition that will not extrude. As a bearing material it minimizes scoring of the moving member and provides a polishing action. Rings are precision molded to nominal outside and inside diameters. Tapered lip design automatically preloads the pressure rings in the packing recess. Male and female adaptors are available in 1/4, 5/16, 3/8 and 1/2-in. cross sections in standard diameters up to 12 in. OD. Made by **Periflex, Inc.**, 113 E. Ten Mile Rd., Hazel Park, Mich.

For more details circle NED-15 D7 on enclosed inquiry slip

PREVENT LADDER SLIPPING ACCIDENTS

UNIVERSAL LADDER SHOES

UNDERWRITERS' APPROVED for all types of floors and surfaces

Combination cord-rubber tread holds firm to wet or dry surfaces, ridges cut through oil and grease to provide a secure grip. Sharp spike for soft surfaces, snow and ice. Adopted by many companies for general service.

WRITE FOR BULLETIN NO. 9

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY

2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-16 D7 on enclosed inquiry slip

Mail Cart!

Put efficiency in your mail operation! This double-deck polished aluminum mail cart by Chesley lets your mail department categorize incoming mail for quick, error-free delivery. Lower basket for out-going mail. Both baskets are removable.

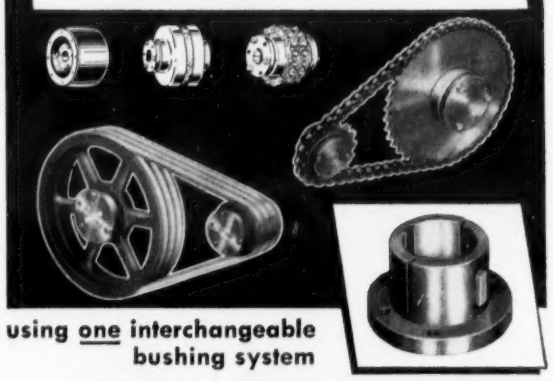
Write for free brochure — or, better still — order today!

MODEL LS-2 (Legal Size) 26½" L x 19" W x 29½" H (File Folders Not Included)
Shipping Weight — 33 lbs. $45.00 F.O.B. DETROIT

CI **CHESLEY INDUSTRIES**
Write Dept. H 7731 LYNDON STREET DETROIT 38, MICHIGAN

For more details circle NED-17 D7 on enclosed inquiry slip

Browning THE ONLY COMPLETE POWER TRANSMISSION SERVICE



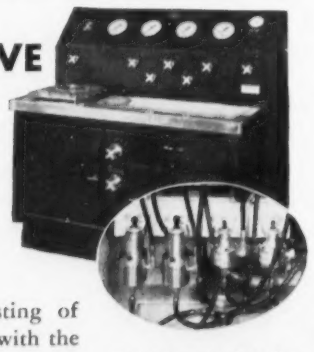
using one interchangeable bushing system

From this single source you can select the most efficient equipment for any power transmission need. For Browning manufactures an integrated line of sheaves and V-belts, sprockets and chain, paper pulleys, and couplings; all using Browning's exclusive *malleable* split taper bushing. Thousands of sizes and bores, off-the-shelf, ready to use. For information and free illustrated catalog GC101, ask Browning distributor or write to **Browning Manufacturing Company, Maysville, Kentucky.**

Browning POWER TRANSMISSION EQUIPMENT

For more details circle NED-18 D7 on enclosed inquiry slip

SAFETY VALVE TEST STAND WITH "BUILT-IN" RELIABILITY



Completely reliable testing of safety valves is assured with the I. E. C. Test Stand. Four gauges give accurate readings, in the model illustrated, for pressures ranging between zero and 1000 pounds. Models are available for any ranges selected by the customer up to 10,000 pounds pressure. Adapter plates can be furnished to fit all sizes and types of safety valves. For complete information, please write for Bulletin 545.

Reliability of the Safety Valve Test Stand is guaranteed by the well known repeatability and accuracy of I.E.C. Gage Gards. They prevent the pressure being measured by each pressure gauge from exceeding its maximum.

INDUSTRIAL IEC ENGINEERING CORP.

INDUSTRIAL ENGINEERING CORPORATION
525 E. Woodbine, Louisville 8, Ky.

For more details circle NED-19 D7 on enclosed inquiry slip

NEW! DISCOVERY!
SAVES PLUMBING BILLS

★CLEANS INSTANTLY

CHICAGO—April 1st—Factories, Machine Shops, Offices including Home Owners are constantly having trouble with clogged-up pipes which proves expensive in Costly Plumbing Bills—

But now—using Water Impact and Air Pressure, here is a new unit called the **Plumber's Flushing Gun**, which cleans all lines up to 100 ft. It will open any number of bends in pipe. Yet anyone can operate this new gun, which triggers easily.

TOILETS, URINALS, SINKS, and FLOOR DRAINS clogged with paper, grease, rags, sand, and other debris can be cleared with one or more shots from the gun, **saving the owner, the Gun's price the first time it is used.** This new Flushing Gun may be used on any ½ to 6 inch waste pipe including Sink Drains, Floor Drains, Hot Water Pipes, Drinking Fountains, Septic Tanks, and Urinals. Obstructions melt away INSTANTLY when struck by the hammer like blow of this new unit.

AMAZINGLY EFFECTIVE

Hose attachment feeds water thru gun while air is released causing chain reaction in pipe cleaning the most stubborn stoppage.

This new Plumber's Flushing Gun is offered on a 30 Day Free Trial to prove its value. **BUT MOST IMPORTANT IS THIS**—What is this Tool worth to your Factory, Building, Machine Shop or in your own Home in **Costly Plumbing Bills Saved.** For your own good—Fill coupon right now—No agent will call—Obey that urge, mail now or write postcard. (Chicago Phone Kildare 5-1702)

MILLER SEWER EQUIPMENT, INC. 4638 N. Central Ave., Chicago 30, Ill.
Please send FREE BOOKLET on Flushing Gun, I am not obligated.

NAME _____
FIRM _____
STREET _____ CITY _____ STATE _____

▲ For more details circle **NED-20 D7** on enclosed inquiry slip ▲

"unbreakably" safe

Nalgene Polyethylene

CARBOYS & BOTTLES have so many advantages, it's hard to say which are most important in plant and laboratory use . . . light, unbreakable, chemically inert, heat resistant. *Best way to handle* distilled water, caustics and acids!

1208—CARBOYS ASPIRATOR with ½" polyethylene needle-type spigots. Sizes Available: 2 to 13 gal. Priced from $19.80 to $37.80 each.

1206—BOTTLES ASPIRATOR with serrated tubing outlet. Sizes available: 32 oz. to 13 gal. Priced from $2.65 to $28.75 each.

Ask any Laboratory Supply Dealer

the NALGE CO. Inc.
ROCHESTER 2 NEW YORK

WORLD'S LARGEST FABRICATOR OF POLYETHYLENE LABORATORY WARE!

▲ For more details circle **NED-21 D7** on enclosed inquiry slip ▲

Sesco positive holding
CAM CLAMPS

THEY MAINTAIN POSITIVE HOLDING PRESSURE—NEVER LOOSEN . . .

The effective clamping range solves the problem of variations in stock thickness up to ¼" and eliminates troublesome readjustments.

LAST INDEFINITELY . . .

→ because of heavy steel construction and precision assembly.
→ singly, or in multiple, on any machine tool, or operation.
→ and withstands severe vibrations, even on milling operations.

AND, THEY'RE AVAILABLE FROM STOCK IN 4 STANDARD SIZES . . .

→ with maximum holding pressure up to 1600 lbs.
→ and, 2 larger sizes are available on special order—with holding pressure up to 8000 lbs.

Patent No. 2,537,594

SESCO INC. 8881 Central Detroit 4, Michigan

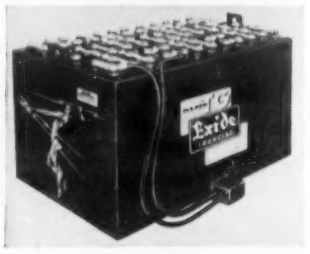
▲ For more details circle **NED-22 D7** on enclosed inquiry slip ▲

MINIATURE PHOTOUNITS
electric-eye units reduced in size

Light sources and photounits pictured have been reduced to 5/16-in. diameter and 2¼-in. length for use with miniaturized electric-eye controls for automation and production applications. Photounits have higher sensitivity for operation with smaller light values, either directly from the miniature light source, or reflected from surfaces. They are adapted for use with IRC-5 miniature adjustable controls for both photounit sensitivity and light strength. Made by **Ess Instrument Co.**, Dept. D, 96 S. Washington Ave., Bergenfield, N. J.

▲ For more details circle **NED-23 D7** on enclosed inquiry slip ▲

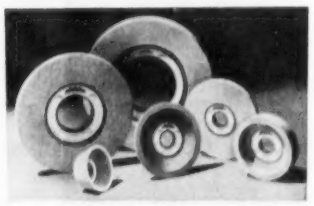
INDUSTRIAL TRUCK BATTERY
rated capacity upped 44 per cent



Rated capacity of the TG Exide-Ironclad industrial truck storage battery is 72 ampere-hours per positive plate, 44 per cent above the 50 ampere-hour rating of the previously announced type TLM Exide-Ironclad battery. Use of porous plastic-glass fiber tubing to encase the grid spines and active material of the positive plates results in more power per unit of space. Battery is available in finished steel trays in eleven sizes with from 11 to 33 plates per cell and capacities from 360 to 1152 ampere-hours at the 6-hour discharge rate. Made by **Electric Storage Battery Co.**, Exide Industrial Div., Dept. TG, Box 8109, Philadelphia 1, Pa.

▲ For more details circle **NED-24 D7** on enclosed inquiry slip ▲

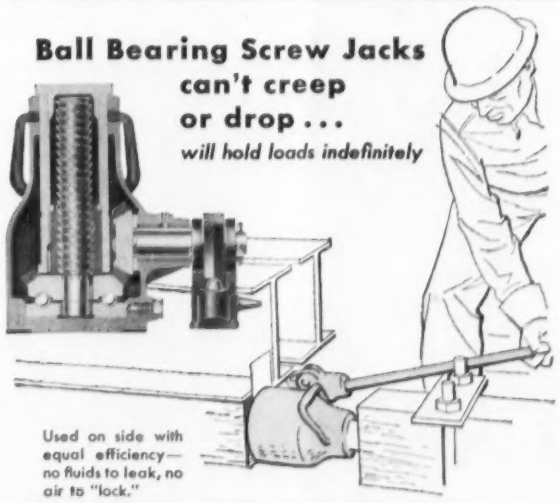
TOOLROOM GRINDING WHEELS
made of aluminum oxide abrasive



Vitrified bonded grinding wheels for precision surface grinding and tool and cutter grinding feature the new friable aluminum oxide abrasive grain. This grain is produced in single crystal form without crushing and is free from inner stresses and strains. Each particle contains multiple cutting edges over its surface, affording penetration into work and fast grinding. SA Borolon toolroom wheels are offered in all shapes and sizes including straight, straight cup, flaring cup and dish types. Made by **Simonds Abrasive Co.**, 5514 Tacony St., Philadelphia 37, Pa.

▲ For more details circle **NED-25 D7** on enclosed inquiry slip ▲

Ball Bearing Screw Jacks can't creep or drop . . .
will hold loads indefinitely



Used on side with equal efficiency—no fluids to leak, no air to "lock."

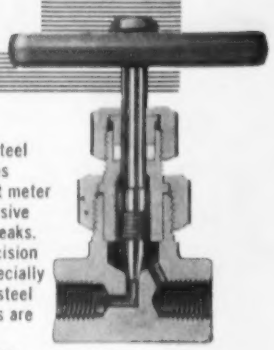
These jacks can't move up or down unless you use jack handle to apply power to ball bearing actuated gears in base that turn the nut. Available in 15 to 50 ton capacities. Dependable, fully enclosed—*seldom need lubrication or servicing.*

Ask your nearest recognized distributor, or write the world's oldest and largest manufacturer of lifting jacks, the Duff-Norton Co., P. O. Box 1889, Pittsburgh 30, Pa. Ask for bulletin AD-12-N.

DUFF-NORTON JACKS
"Giving Industry a Lift Since 1883"

▲ For more details circle **NED-26 D7** on enclosed inquiry slip ▲

AMERICAN® needle valves



Teflon-packed, forged steel American® Needle Valves stand up in the toughest meter manifold jobs and other corrosive field services without gland leaks. Stainless or carbon steel precision machined valve bodies are specially suited for welding. Stainless steel centerless-ground valve stems are designed so that the valves can be repacked under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. For pressure to 10,000 psi, upon request, valves are hydrostatically tested and individually inspected. Valves are furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns — screwed or union bonnets.

AMERICAN METER COMPANY INCORPORATED · ESTABLISHED 1836

Executive Offices: Philadelphia 16, Penna. Sales Offices in Principal Cities

▲ For more details circle **NED-27 D7** on enclosed inquiry slip ▲

NEW DESIGN-
LONGER LIFE-
LESS MAINTENANCE

New, Improved **IDEAL**

ALL-SERVICE CLEANER

● Air-engineered to deliver the "max" in performance and long gruelling service. New brush assembly and greater brush length increases brush life by 100%. Special pigtail terminal prevents damage to commutator even when maintenance is neglected.

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Sycamore, Illinois

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...bend to the shape you need

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FREE—Send today for these 2 BIG HEATING HELPS
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See other ad on page 75

Edwin L. Wiegand Company
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BPA NBP

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

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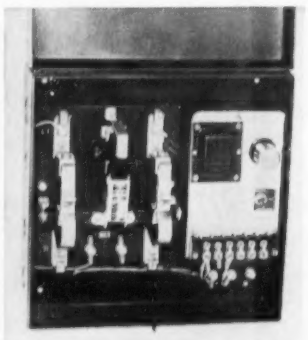
LIQUID LEVEL CONTROL unit is mounted in single case



Liquid level in a vat, reservoir, boiler or tank activates the model FLMC electronic liquid level control. Control and a magnetic switch or contactor is mounted in one case with all internal wiring complete. Installation requires connection to power and load lines, plus single line cable to the electrode in the tank. Styles and capacities for motor starters or magnetic valves are available. Made by **Lumenite Electronic Co.**, 403 S. Dearborn St., Chicago 5, Ill.

For more details circle NED-32 D7 on enclosed inquiry slip

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U. S. Hoffman Machinery Corp.—The Hoffco-Vac 35 high vacuum portable cleaner described in 4-page bulletin M-135 is designed for nonstop operation on heavy dust deposits. Unit has up to 75-ft hose, nine dust bags which supply 30 sq ft of cloth area, a 5-hp motor, plus V-belt driven exhauster.

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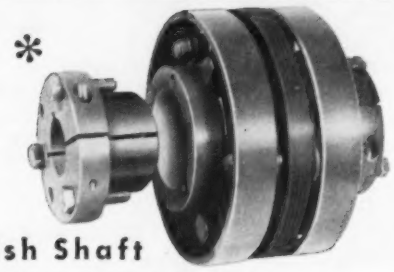

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Approximate Number of Employees in Plant: _____

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
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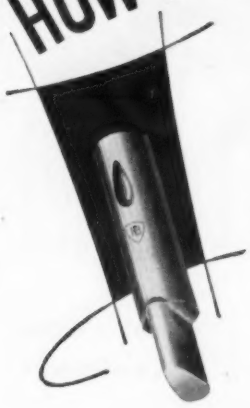
D-7

HOW R-B PUNCHES OPERATE



R-B standardized punches and die buttons are inserted in their retainers with a simple push and a twist.

Punches and die buttons are instantly removed by inserting a tanged tool in retainer hole to release the locking ball.

Each R-B retainer is equipped with a spring loaded locking ball which engages the recessed portion of standard and special R-B punches and die buttons. Locked punches and die buttons are always accurately aligned—no additional keying is required.

Use R-B Engineering Service for Your Tough Piercing Problems.

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ALLIED PRODUCTS CORPORATION
Dept. 76—26482 Capitol Ave., Detroit 39, Mich.

Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

For more details circle NED-38 D7 on enclosed inquiry slip

"Machinery Analyzer Saves Us $1000 Per Hour"

"We've had total savings of more than $100,000 since we purchased the analyzer three years ago. The analyzer has been shipped over 100,000 miles by air, rail, and car to our eight plants without need for repairs or replacements" — reports a leading chemical processor.

The Machinery Analyzer — actually a portable IRD Vibration Analyzer — is used for . . .

- TROUBLE SHOOTING — to pinpoint faulty components exciting vibration, *without costly dismantling.*
- MEASURING DISPLACEMENT — to accurately determine the condition of machinery, *without costly dismantling.*
- IN-PLACE BALANCING — to dynamically balance at operating speed the accessible rotating components, *without costly dismantling.*

Here are several examples cited by company officials:

- Detecting a broken gear in an important gear reducer saved a major loss of production.
- Savings of $2000 in balancing a ringer assembly, because dismantling and loss of production were eliminated.
- A 450 HP motor was balanced, in place, at savings of $8000 to $10,000 in production and maintenance costs.

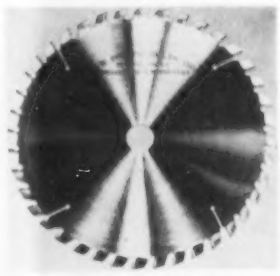
What portable IRD Vibration Analyzers are doing for this company — to reduce inspection, maintenance, and production costs — it can do for your company.

IRD

For further information — or an actual demonstration on your own machinery by an IRD field engineer—write today to International Research and Development Corporation, 797-NE Thomas Lane, Columbus 16, Ohio.

For more details circle NED-39 D7 on enclosed inquiry slip

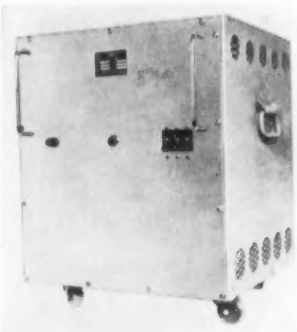
CARBIDE-TIPPED SAW BLADE cuts wide variety of materials



Laboratory type carbide-tipped saw blade is used for cutting critical areas out of castings, molds and other joined materials for stress, strain, warp, impact and other tests. Other uses include sawing of materials and components for cross-section inspection and analysis, and for making prototypes and mockups. Cuts can be made in such materials as plastics, copper-plated printed circuit laminates and light metals. Blade cuts true to 0.0005-in. Design is to individual application. Made by **Forrest Mfg. Co.,** 162 State Highway 17, Rutherford, N. J.

For more details circle NED-40 D7 on enclosed inquiry slip

MAGNETIC SERVO AMPLIFIER for industrial automation use



Both reference-phase and control - phase power is provided for a ¾-hp motor by this 1000-w magnetic servo amplifier. It permits automation of milling machines and other 60-cycle equipment or processes under programmed operation. Primarily used for 220-v three-phase operation, it can be modified for 115-v single or two-phase use. It has one-cycle response and is mobile. Made by **Magnetic Research Corp.,** 3159 W. El Segundo Blvd., Hawthorne, Calif.

For more details circle NED-41 D7 on enclosed inquiry slip

ELECTRONIC TIMER accurately repeats timing cycles

Timing sequences from 1 to 60 seconds can be accurately repeated without resetting of the Premier model 1310 electronic timer. Applications include photographic and various industrial uses. Current can be allowed to pass through the unit constantly for focusing or inspection prior to timing. Device incorporates an appliance outlet and can be externally calibrated for input voltage differences. Price is $29.95. Made by **Photo Materials Co.,** Dept. N, 2100 W. Fulton St., Chicago 12, Ill.

For more details circle NED-42 D7 on enclosed inquiry slip

Raise Your Plating Production

UP TO **60%** WITH

SMOOTHEX Bright Copper!

This new revolutionary High-Speed Process is your answer to an easier controlled, faster, more economical Bright Copper Plating method. Plating specialists developed this process to help you achieve top quality, more profitable plating solutions capable of increasing your production 30 to 60 percent with your present equipment. You can cut your cost and do a better plating job in a very short time by communicating with us, at once!

Send A Sample Of Your Plating Solution To Us For Analysis!

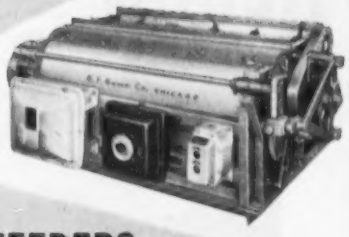
Write For Literature

SMOOTHEX, Inc.
10705 Briggs Road Cleveland 11, Ohio

For more details circle NED-43 D7 on enclosed inquiry slip

Regulate Bulk Feeding . . .

and prevent production choke-ups!



DRAVER FEEDERS

now available with automatic timing controls

Prevent overloading of production machines. Accurate, trade-proved Draver Feeders regulate the flow of dry free- or nonfree-flowing products . . . keep processing equipment operating at most efficient capacity . . . prevent machine failure and downtime. Now available with timing controls, for feeding to continuous processes at automatic intervals. Capacities from minute quantities up to thousands of pounds per hour. What is your bulk feeding problem? Write our engineering department for a solution, without obligation.

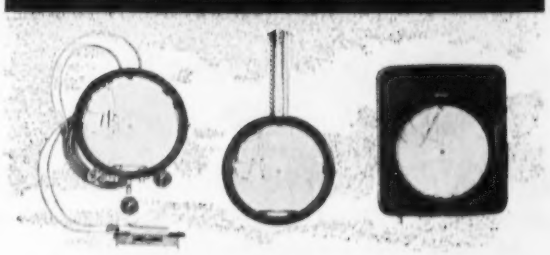
FEEDING · MIXING · SIFTING · GRINDING · WEIGHING · PACKING and PACKAGING EQUIPMENT FOR THE PROCESS INDUSTRIES

B. F. GUMP CO.
Engineers and Manufacturers since 1872
1336 S. Cicero Avenue, Chicago 50, Illinois

For more details circle NED-44 D7 on enclosed inquiry slip

WIDEST RANGE OF EQUIPMENT FOR

HUMIDITY RECORDING



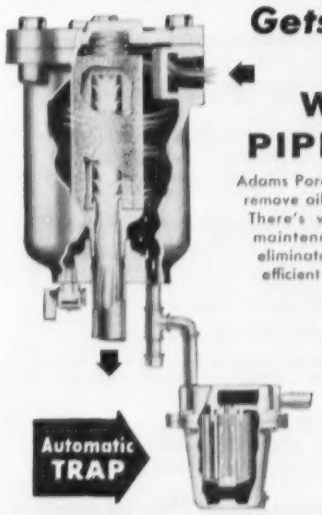
No matter what problems you face in obtaining suitable humidity measurements and records, the unique versatility of Foxboro Humidity Instrumentation offers an appropriate solution. Included are Recorders, Recorder-Controllers, Indicators, for relative humidity (hygroscopic type), wet-and-dry bulb measurements, and for direct reading dewpoint or absolute humidity measurement (with the exclusive Dewcel element). Available in portable, close-coupled and long-distance types; with round or rectangular cases.

Write for full details in Bulletin 11-11. **The Foxboro Company, 664 Norfolk St., Foxboro, Mass., U.S.A.**

FOXBORO Reg. U.S. Pat. Off. HUMIDITY INSTRUMENTS

For more details circle NED-45 D7 on enclosed inquiry slip

ADAMS FILTRATION for COMPRESSED AIR



Gets rid of—
OIL
WATER
PIPE SCALE

Adams Poro-Stone Filters efficiently remove oil, water, and pipe scale. There's virtually no service or maintenance. Automatic Trap eliminates attention — assures efficient filter operation.

- Permanent Poro-Stone element
- Centrifugal separation
- Diffused filtration
- Low pressure loss
- Prompt delivery of all sizes

Automatic TRAP

Write today for Bulletin 117

R. P. ADAMS COMPANY, INC., 227 E. Park Dr., Buffalo 17, N. Y.

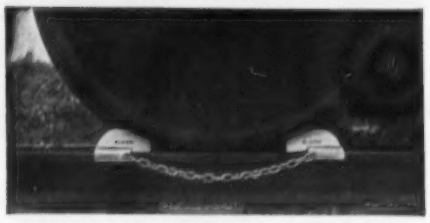
ADAMS *Poro-Stone* AIR FILTER

For more details circle NED-46 D7 on enclosed inquiry slip

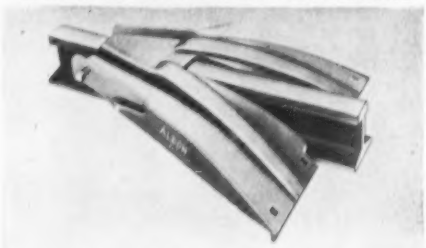
ALDON

Wheel chocks in four styles protect employees and equipment from runaway cars. A must for roller bearing cars.

WHEEL CHOCKS



CAR & LOCOMOTIVE REPLACERS



Universal type in sizes for all rails and heaviest equipment
Rail lock prevents motion in any direction

WRITE FOR FREE LITERATURE

The ALDON COMPANY

3338 NORTH RAVENSWOOD • CHICAGO 13, ILL.

For more details circle NED-47 D7 on enclosed inquiry slip

ANSWERS

to your questions about Kaiser Aluminum's purchase of U. S. Rubber Wire and Cable Division

As part of its continuing program of complete service to the nation's rapidly-expanding electrical industry, Kaiser Aluminum & Chemical Corporation recently purchased the Wire and Cable Division of United States Rubber Co., located at Bristol, Rhode Island. The purchase raises questions of interest to customers of both Kaiser Aluminum and the former Wire and Cable Division of U.S. Rubber.

Q. Will U.S. Rubber products still be available?
A. Yes, ALL former U.S. Rubber wire and cable products will continue to be produced and sold.

Q. Who will back up the U.S. Rubber guarantees now?
A. Kaiser Aluminum will back up guarantees on terms originally established, including replacement.

Q. Will insulation quality on U.S. Rubber products be the same?
A. High-quality insulations will remain exactly the same in every specification detail and will, in fact, be supplied by U.S. Rubber.

Q. Can I now buy both Aluminum and Copper electrical conductors from Kaiser Aluminum?
A. Yes—and in a wider variety than formerly available from either source.

Q. I have always liked the service from U.S. Rubber people; who will do their job now?
A. The same people who served you before will serve you now, having joined Kaiser Aluminum as a part of the sales organization.

Q. Will new people from both companies be calling on me?
A. There will be no duplication of calls, because *both* former U.S. Rubber representatives and Kaiser Aluminum representatives will present complete line.

Q. I formerly bought through a distributor; how will this change?
A. Distributor outlets, whether handling former U.S. Rubber products or Kaiser Aluminum, will remain unchanged.

Q. Will there be any effect on Field Engineering Services?
A. Technical assistance available to you is greatly increased with the addition of highly skilled U.S. Rubber personnel to Kaiser Aluminum's field, research and product development departments.

Q. How will the new setup affect my delivery date?
A. New eastern plant location, additional sales representatives and distributors will mean even faster and more efficient service.

Kaiser Aluminum & Chemical Sales, Inc., *Executive Office*, Kaiser Bldg., Oakland 12, California; *General Sales Office*, Palmolive Bldg., Chicago 11, Illinois.

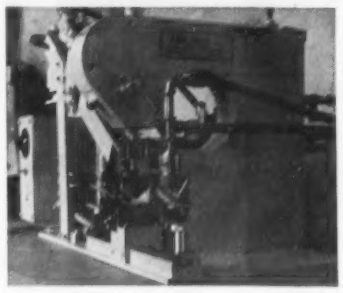
IF IT CARRIES CURRENT . . . K&W CARRIES IT.

Kaiser Aluminum

See "THE KAISER ALUMINUM HOUR." Alternate Tuesdays, NBC Network. Consult your local TV listing.

For more details circle NED-48 D7 on enclosed inquiry slip

PIN FEEDING MACHINE adjusts to various pin sizes



Roll - Pins, Groov - Pins, Driv-Lok and other pins up to 3-in. diameter and any length can be hopper fed and inserted into assembly components at speeds up to 30 per minute with the Pinserter. Changeover from one size to another can be done quickly. Machine also adjusts to handle wide range of assembly parts. Operator hand feeds assembly components into holding fixture and depresses foot switch to actuate insertion cycle. Center spacing of pins is 1/8-in. or greater. Machine requires 30 w of 110 v single-phase ac and 90 psi air for operation. Made by **Aidlings, Inc.**, Dept. N, 1613 E. New York Ave., Brooklyn 12, N. Y.

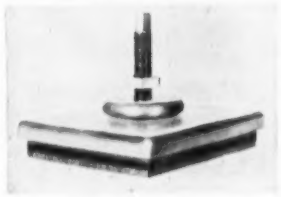
For more details circle NED-49 D7 on enclosed inquiry slip

CARBIDE CORE BIT has carbide inserts for use in stone

Saw tooth type core bit with tungsten carbide inserts is offered for coring coarse grained sandstone, shale, limestone and masonry. It works with saw-type action, yet operates on conventional drilling rigs. Various standard sizes are offered with up to 12 tungsten carbide segments. Special sizes can be ordered. Made by **Hoffman Bros. Drilling Co.**, Punxsutawney, Pa.

For more details circle NED-50 D7 on enclosed inquiry slip

VIBRATION ISOLATING MOUNT in 800 to 7500 lb load ranges



An all steel base unit with leveling screw and leveling plate, combined with special Unisorb vibration - dampening pad, comprise the Level-Rite self - leveling machinery mount. Seven models provide loading ranges from 800 to 7500 lb per unit. Four sizes range from 4 x 4 to 10 x 10 in. Featured is the screw-post design which requires only rotation of post's square top to obtain correct level, then securing the lock nut. Compression provides positive hold, for no walking or creeping under severe side loads. Unisorb pad will not deteriorate, is resilient and impervious to cutting fluids and cleaning compounds. Made by **Felters Co.**, Dept. NP, 210 South St., Boston 11, Mass.

For more details circle NED-51 D7 on enclosed inquiry slip

IF YOU USE THESE PRODUCTS

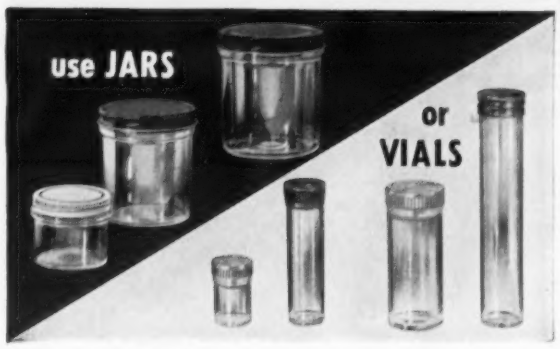
send for the world's most complete, illustrated catalog of **ELECTRIC LANTERNS** and **SAFETY CANS**

VALUABLE DATA:
- The world's first comprehensive table of lamp and battery operating information
- High power searchlights
- All-purpose hand lights
- Safety lights and lanterns
- Flammable liquid SAFETY CANS
- Oily Waste Cans

JUSTRITE Mfg. Co.
2061 N. Southport, Chicago, Ill.

CATALOG NUMBER 569-E

For more details circle NED-52 D7 on enclosed inquiry slip



You can package it better at less cost in a Clearsil plastic container

- *1/5 the weight of glass*
- *Shatter-proof*
- *Easy to print*
- *Moisture tight, dust free*

There is a wide variety of shapes, sizes, colors and closures available to give your particular product extra sales sparkle. Write for free samples and descriptive literature to Dept. N.

CELLULPLASTIC CORPORATION
Sales and Executive Offices Newark, New Jersey

For more details circle NED-53 D7 on enclosed inquiry slip

DUO Safety

ALL ALUMINUM LADDERS

. . . GOOD FOR A LIFETIME OF DEPENDABLE SERVICE

Type F—Extension Ladder

Here's the ideal ladder for all types of plant maintenance work. The strength, lightness and non-rust qualities of aluminum combine with the most exacting engineering and manufacturing processes to provide a ladder that will deliver a lifetime of safe, dependable service. There are Duo-Safety aluminum ladders in all types . . . step, folding, extension. Your inquiry will receive prompt attention.

WRITE FOR FREE CATALOG

DUO-SAFETY LADDER CORP.
809 9th St., Oshkosh, Wis.

For more details circle NED-54 D7 on enclosed inquiry slip

CHECK THE CABLE-CONTROL ADVANTAGES OF Gleason TWO-WAY PAYOUT REELS

The Two-Way Payout feature on Gleason Reels permits cable control to *both sides* of travel center. You need only one-half the usual cable length. This is only one of many Gleason advantages that provide twist-proof cable protection and smooth power control to equipment in motion. Available in many types and sizes, also in watertight, dust-tight, or explosion-proof type construction.

Write for your copy of Gleason "Idea Sparker" Catalog on Reel applications—or for a Gleason-engineered suggestion on your problem.

Gleason Reel Corp.
783 N. Plankinton Ave., Milwaukee 3, Wis.

SPRING REEL HEADQUARTERS FOR ALL INDUSTRY

For more details circle NED-55 D7 on enclosed inquiry slip

TAP WITH TAPMATIC

2

COMPLETE LINES FOR EITHER REVERSIBLE OR NON-REVERSIBLE SPINDLES

COMPLETE RANGE OF SIZES UP TO 2" TAP CAPACITY

CUT COSTS

INCREASE PRODUCTION

OBTAIN GREATER PRECISION

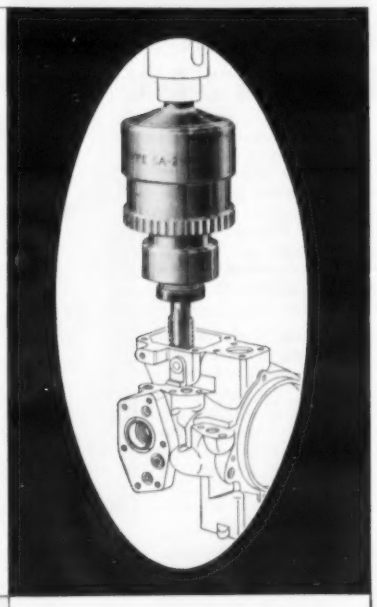
POSITIVE TORQUE CONTROL

Only Tapmatic offers this "weightless tapping" feature . . . customary human lead error is eliminated . . . consistently uniform threads are assured.

WEIGHTLESS FLOATING ACTION

Tapmatic's exclusive positive torque adjustment clutch stops tap instantly when tap becomes dull, loaded or bottoms in blind hole . . . operator sensitivity no longer a factor.

Literature Upon Request



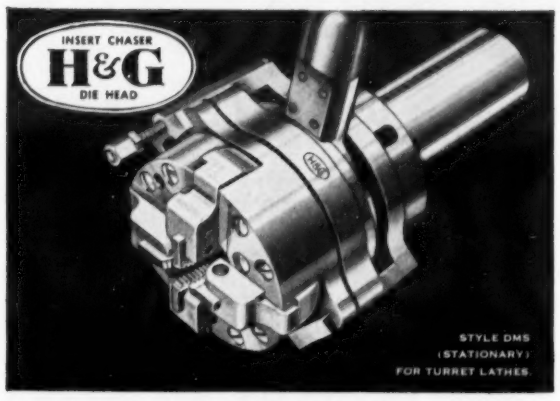
TAPMATIC CORPORATION

845 West 16th Street • Costa Mesa, California

Phone Liberty 8-3404

▲ For more details circle NED-56 D7 on enclosed inquiry slip ▲

DESIGNERS: HERE'S NEW DATA ON THREAD CUTTING



STYLE AND SIZES FOR ALL MACHINES ON WHICH THREADS ARE CUT

This die head is unique

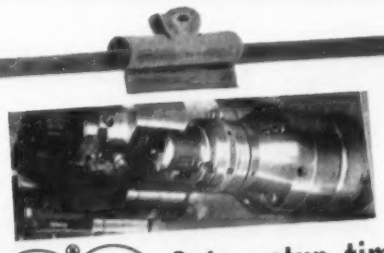
THERE IS NO OTHER LIKE IT

It cuts threads with insert chasers. These are, in reality, small sections of the business end of large and expensive chasers, but with this important difference: *their cost is so low they can be even thrown away when dull.* For example, for less than $45 you can get a dozen sets of insert chasers, each set ground ready to go. Change now to insert chaser die heads and watch your performance improve. "UNIFIED AND AMERICAN SCREW THREAD DIGEST" sent free on request.

THE EASTERN MACHINE SCREW CORP.

28-48 Barclay St., New Haven, Conn.

▲ For more details circle NED-57 D7 on enclosed inquiry slip ▲



DEKA BORE Cuts setup time 300% at FORD PLANT!

THE PLACE: FORD MOTOR CO., AIRCRAFT ENGINE DIVISION, CHICAGO

THE JOB: BORING HIGH ALLOY STEEL LINERS IN MAGNESIUM HOUSING (36 Rockwell "C")

REPORT BY: TOOL ENGINEERING DEPT.

"Bore diameter tolerance is plus or minus .0003". There's an edge wear of .0001" to .0002" on the tool bit in the initial pass. Before, each final pass took several time consuming adjustments. We changed to a Deka-Bore boring head, and cut setup time 300%, because the Deka-Dial permits positive .0001" adjustment on all settings, in a few seconds. No backlash, either."

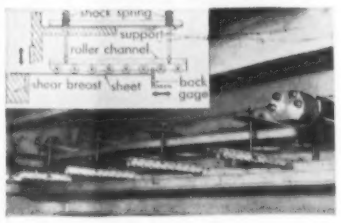
Attach this ad to your letterhead for free demonstration or literature!

PRECISION TOOL & MFG. CO. OF ILL.

DEKA BORE 1305 South Laramie, Cicero 50, Illinois

▲ For more details circle NED-58 D7 on enclosed inquiry slip ▲

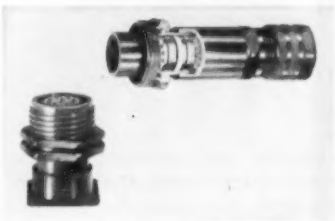
MAGNETIC SHEAR CHANNELS feed sheets through to back gage



Easily installed on any shear, magnetic roller channels expedite the cutting of sheet steel up to 14-gage. Units fit behind the shear breast and above the back gage. As the sheet to be cut is fed through the shear, magnetic rollers seize and guide it into position against the back gage. Shear actuation peels the sheet off the rollers, and sheared material drops free. Accuracy is assured because sheet cannot sag. Alnico V magnets in wear-resistant stainless steel wheels are mounted on 2-in. centers of 14-gage stainless steel channel frame. Standard lengths are 24, 36 or 48 in. Made by **Magni-Power Co.**, Dept. 20, Wooster, O.

▲ For more details circle NED-59 D7 on enclosed inquiry slip ▲

ELECTRICAL CONNECTORS resist water, oil, dust, shock



Compact, lightweight Pyle-Star electrical connectors meet performance requirements of Class A, B, C and E of military specifications MIL-C5015B, as well as NEMA requirements for power, lighting, control and coaxial circuits. Plugs and receptacles are impervious to water, moisture, oil, gas, dust, pressure, vibration and shock. Made by **Pyle-National Co.**, 1364 N. Kostner Ave., Chicago 51, Ill.

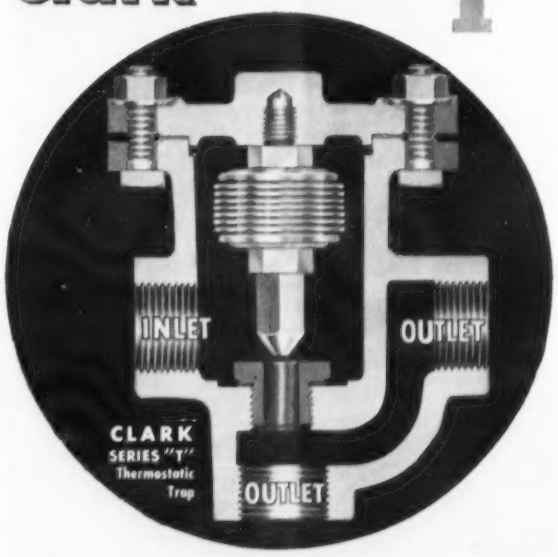
▲ For more details circle NED-60 D7 on enclosed inquiry slip ▲

LATEX GLOVES have high tensile strength

Curved-finger design is incorporated in line of Wil-Gard industrial gloves made from liquid latex. They have high tensile strength, good wearing qualities, pliability and comfort under hard, continuous service. Resistance to most common industrial gases, chemicals and acid solutions is claimed. Styles offered are general purpose, white surgical (for sensitive touch), tan and natural color Kanry-Tex (reinforced in fingers and palms), tan tanners' mittens in fingerless and one-finger models and thumb and finger cots. Lengths from 11 to 12 in. are available in light, medium and medium-heavy weights with smooth and firmhold finishes. Sizes range from 7 to 11. Made by **Wilson Rubber Co.**, Industrial Div., 1205 Garfield Ave. S.W., Canton 6, O.

▲ For more details circle NED-61 D7 on enclosed inquiry slip ▲

Clark FITS TO A "T"



Ask Your Distributor For These CLARK Fluid Controls

Inverted Bucket Traps
Open Bucket Traps
Float Traps
Venting Traps
Thermostatic Traps
Vacuum Traps
Pressure Regulators
Y-Type Strainers
Pressure Reducing Valves

The Clark MANUFACTURING COMPANY

1836 East 38th St. • Cleveland 14, Ohio

▲ For more details circle NED-62 D7 on enclosed inquiry slip ▲

WEBB hand pushed TROLLEYS

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.

P-2530 TROLLEY

½ Ton Capacity

4" to 12" I-BEAM

Write for Bulletin No. 453:

JERVIS B. WEBB CO.

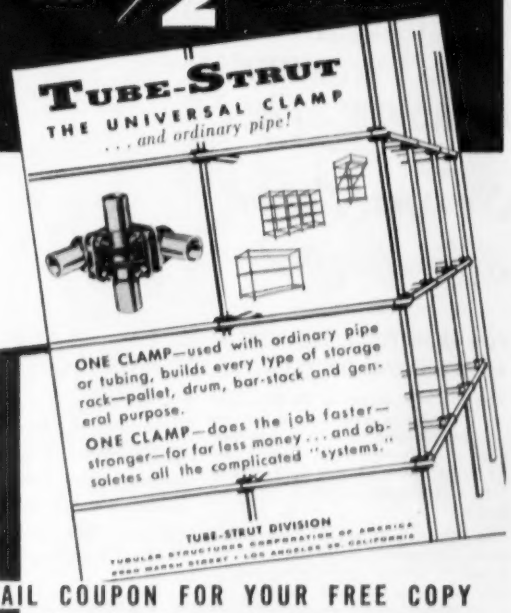
Conveyor Engineers and Manufacturers

8921 ALPINE AVE. • DETROIT 4, MICH.

Offices In Principal Cities

▲ For more details circle NED-63 D7 on enclosed inquiry slip ▲

CUT YOUR COST OF STORAGE RACKS IN 1/2 WITH..



MAIL COUPON FOR YOUR FREE COPY

Tube-Strut is a single, patented coupling Its simple principle, used with common pipe or tubing—gives you the storage racks you want—FAST, with the greatest strength and versatility . . . AT A LOW, LOW COST! 100% ADJUSTABLE—100% RE-USABLE NO THREADING—NO WELDING

This Tube-Strut "Rack Materials Calculator" shows you at a glance—how many feet of pipe and the exact number of Tube-Strut clamps required for any storage rack installation.

MAIL COUPON FOR YOUR FREE CALCULATOR

TUBE-STRUT DIVISION, COM. RACK DIV.
TUBULAR STRUCTURES CORP. OF AMERICA
2960 MARSH STREET, LOS ANGELES 39, CALIF.

Please Send Me a Tube-Strut Calculator ☐ Brochure ☐

Name _____

Company _____ Position _____

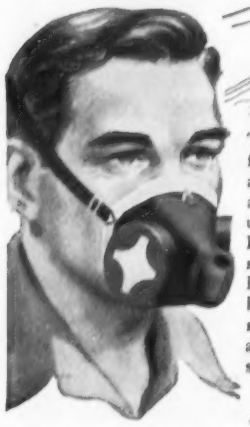
Street _____

City _____ State _____

▲ For more details circle NED-64 D7 on enclosed inquiry slip ▲

Got DUST STORM THROAT?

YOU NEED A . . .
DUPOR No. 4



The respirator that's made to order for protection against dust, fumes and paint spray! Has everything, and more than you will find in units costing twice the price! Double filters; soft rubber face mask; sanitary face cloth; exclusive Dupor valves for controlled breathing; panorama vision! Economical protection that you cannot afford to be without! Write for sample, $2.00 postpaid!

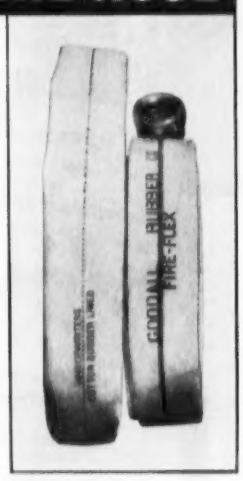
H. S. COVER, P. O. Box 2508
South Bend 14, Indiana
"Respirators for Industry since 1894"

For more details circle NED-75 D7 on enclosed inquiry slip

New "EZ flex" THE Modern FIRE HOSE

UL UNDERWRITERS and FACTORY MUTUAL APPROVED FM

Stronger! Lighter! Longer Lengths!



COMPARE! Left: A **50 ft.** coil of standard Cotton Rubber Lined, weighing **21 lbs.** Right: A **100 ft.** coil of "EZ flex", weighing **19 lbs.**

FOR INDUSTRIAL, COMMERCIAL AND MUNICIPAL FIRE PROTECTION

The greatest advance in fire hose construction in over half a century . . . demonstrating an entirely new concept of fire hose weight, strength and flexibility, made possible by the use of new materials and methods of manufacture.

JACKET—A combination of high-tensile fibres of outstanding strength, woven by a special process, assuring highest resistance to pressure, wear, weather and rough handling. Size-for-size, "EZ flex" Pressure-resistance is equal or superior to the heavier and stiffer conventional cotton jackets, despite its much lighter weight. The tightly woven fabric is virtually snagproof, and is treated to resist mildew.

LINING—A light-weight yet long-wearing reinforced rubber lining, bonded firmly to the surrounding jacket, and having a perfectly smooth waterway to insure a full, fast flow. In combination, the "EZ flex" jacket and lining provide a fire hose far ahead of conventional types in strength, flexibility, durability, ease of handling, and economy. Single Jacket, Sizes 1½" to 2½". Double Jacket, Sizes 1½" to 3". Maximum lengths of 100 feet.

"DRI-RACK" FIRE HOSE...

Used in place of Unlined Linen Hose for indoor protection wherever fire hose must be ready for reliable use after long periods of storage. Exceptionally light in weight and extremely flexible . . . folds into smaller space. No "weeping" while jacket is reaching maximum absorption, as with linen hose — *all the water goes on the fire!* The seamless, laminated, reinforced rubber lining is tough and durable, and will stay "alive" for years. Single Jacket, Sizes 1½" and 2½", maximum length 100 feet. *Factory Mutual Approved.*

GOODALL RUBBER COMPANY
449 Whitehead Rd., Trenton 4, N. J. Date _____
☐ Send Complete Information on ☐ "Ez flex" ☐ "DRI-RACK"
☐ Send Representative With Samples
Company _____
Address _____
City _____ Zone _____ State _____

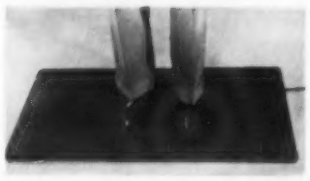
Standard of Quality — Since 1870 HOSE • BELTING • FOOTWEAR • CLOTHING AND OTHER INDUSTRIAL RUBBER PRODUCTS

GOODALL *Rubber Company*

GENERAL OFFICES, MILLS and EXPORT DIVISION, TRENTON, N. J.
Branches and Distributors Throughout the United States and in Canada

For more details circle NED-76 D7 on enclosed inquiry slip

ELECTRIC FLOOR PAD
provides even, low-cost radiant heat



Operating for less than ½-cent per hour, model D-1 electric radiant heating pad is suitable for office, commercial and industrial use. It operates on 120-v ac and measures 20 x 24 in. overall. Tempered Masonite sheets, top and bottom, protect the insulated heating element. It provides comfortable degree of warmth at desk or machine when placed directly on cold floor. Price is $11.95. Made by **Radiant Products, Inc.**, Dept. NE, Box 517, Monroe, N. C.

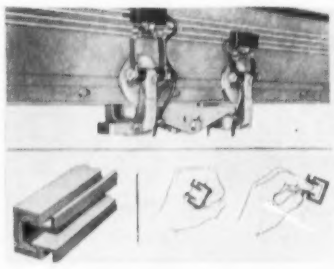
For more details circle NED-77 D7 on enclosed inquiry slip

SURFACE PLATES
made from durable black granite

Possessing greater strength and density, lower absorption and porosity and finer texture than normal granite, Diabase (black granite) surface plates, angles and parallels assure accuracy in toolroom checking and inspection work. Plates are free from rust or other chemical alteration, have low thermal expansion, are resistant to wear and are easy on tools. A wide range of sizes and styles is available from **Machine Products Corp.**, 6763 E. McNichols Rd., Detroit 12, Mich.

For more details circle NED-78 D7 on enclosed inquiry slip

TROLLEY BUS BAR SHIELD
prevents shock from live bus bars



By covering standard bus bar electrification with this Kant-Shock polyvinyl chloride extrusion, a completely safe electrified system is furnished. Accidental contact with live bus bars is prevented since an adult's finger cannot enter the shield. Sliding shoe collector makes floating contact throughout monorail system regardless of misalignment due to bent bars, or at switches and interlocks. Shielded electrification is mounted in stamped bracket assemblies for live power feed throughout the system at maximum rating of 600 v, 100 amp. If headroom permits, it can be applied to existing MonoRail systems in the field. Made by **American MonoRail Co.**, 13116 Athens Ave., Cleveland 7, O.

For more details circle NED-79 D7 on enclosed inquiry slip

Speed unloading and loading with a dependable, Buschman TROJAN All-Purpose Portable Belt Conveyor. Eliminates multiple handling at shipping dock or inside plant. Teams up with fixed and portable conveyors. Moves packages up, down or on level at 50 ft. per minute. Standard 12" width, 10, 15 or 19 feet lengths. One man easily adjusts elevation, rolls TROJAN from job to job.

Start saving today with a TROJAN. Write for Bulletin 50A.

FROM DOCK TO STOCK FAST! WITH A BUSCHMAN Trojan

Buschman CONVEYORS

THE E. W. BUSCHMAN CO., 4482 Clifton Ave., Cincinnati 32, Ohio

C-330-EWB

For more details circle NED-80 D7 on enclosed inquiry slip

New Vinyl Shop Ticket Protector That Can't Rot, Scratch or Break

A totally new type of transparent shop ticket protector, the VPD KNOCKABOUT, made entirely of vinyl to eliminate dirt-catching fabric edgings that invariably tear or unravel, has been produced by the JOSHUA MEIER CO., INC. of New York.

Constructed of extra heavy clear flexible vinyl that can't crack and resists scratching, this new VPD KNOCKABOUT will last almost 10 times longer. Thus usual replacement expense on shop ticket protectors is cut tremendously and sizeable savings are effected.

Designed to protect important shop data and work orders, the VPD KNOCKABOUT is especially suited for plants where chemicals, dyes, fluids and greases are used since contact with these substances tend to rot fabric edgings of the ordinary shop ticket protectors.

Sturdy reinforced construction features heat-sealed edges plus rounded corners to prevent fraying. Top hole for hanging is provided. Comes in four stock sizes: 4" x 6", 5" x 8", 6" x 9" and 8½" x 11". FREE SAMPLE AVAILABLE when requested on company letterhead from the manufacturer.

Write* to Department NED, JOSHUA MEIER CO., INC., 601 West 26th Street, New York 1, N.Y. *Advt.

For more details circle NED-81 D7 on enclosed inquiry slip

INCREASE TRANSMISSION EFFICIENCY
. . . LENGTHEN BELT LIFE
. . . STOP SLIPPAGE

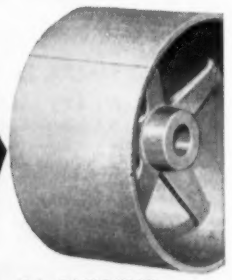
Condersite Lagging is a high-friction pulley surface that increases grip, permits more slack, prevents heating and cracking of belts, reduces belt maintenance and eliminates need for dressing.

Condersite Lagging is quickly, easily applied in your plant by your men. No heat, no bolts, no rivets. Long lasting. Trouble free. For Crown, Flat or Split Pulleys.

Complete information sent free on request. Write Condersite Engineering Corp., 2013 Chancellor Street, Phila. 3, Pa.

DISTRIBUTORS IN PRINCIPAL CITIES
A FEW DESIRABLE TERRITORIES AVAILABLE

CONDERSITE PULLEY LAGGING



PUTS THE P-U-L-L IN PULLEYS

For more details circle NED-82 D7 on enclosed inquiry slip

63300C

PHOTOELECTRIC CONTROLS for OUTDOOR LIGHTING

64401

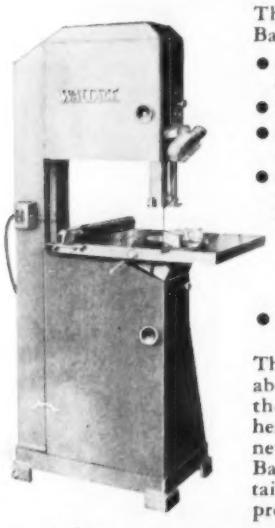
Fisher-Pierce photoelectric controls provide dependable, automatic control of lights regardless of time of day, season or weather. Lights are switched on at the same daylight value each day, off when daylight returns. Non-mechanical, they never need setting or re-setting, even after power failures. The basic F-P circuit has proven dependable, rugged and trouble-free by more than nine years' use, in controlling lights on aircraft obstructions, signs and in store windows; in parking, loading and storage areas; in street lighting and other installations. Load capacities from 300 to 6000 watts; integral and auxiliary protective devices; wide variety of mounting arrangements; SPST, SPDT, DPST contacts; turn-on settings from 1 to 500 foot-candles.

Write for descriptive bulletins, outlining your requirements.

THE FISHER-PIERCE CO., INC.
86 PEARL STREET, BOSTON 85, MASS.

For more details circle NED-83 D7 on enclosed inquiry slip

New Wallace No. 56 18" Band Saw . . . cuts woods, plastics, metals . . . easily! quickly!



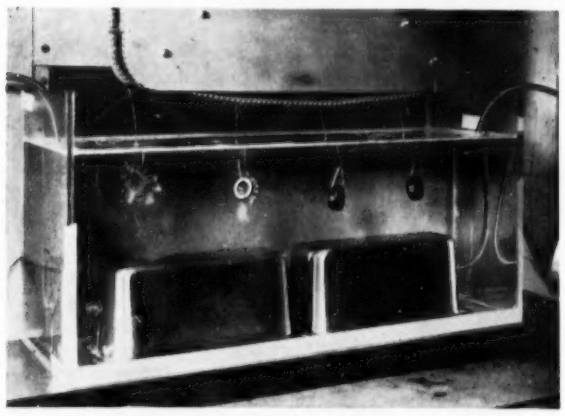
The new Wallace No. 56 Band Saw offers . . .

- Full range of speeds from 50 to 3800 fpm
- Sealed-for-life bearings
- Exclusive blade guide adjustment — from above
- Maximum capacity — 12" between table and guide; 17¾" between saw blade and frame
- Table accommodates standard rip fence and miter gauge — adjustable to any angle from —10° to 45°
- Lowest priced machine of commercial capacity

These and many more profitable features are embodied in the advanced design and heavy-duty construction of the new 18-inch Wallace No. 56 Band Saw. Write for full details on this low-cost, high-production band saw.

J. D. WALLACE & COMPANY, INC.
318 N. Market St., Warsaw, Indiana

For more details circle NED-84 D7 on enclosed inquiry slip



Largest Immersion Equipment for Ultrasonic Cleaning by GU

Lowest cost conveyorized automatic ultrasonic cleaning is now practical with these new General Ultrasonics D-52 immersion Sonicells. Each unit provides a full 52 square inches of radiating area, operating at 20,000 cycles for maximum effectiveness.

The improved, customer-tested, D-52 has all-welded stainless steel construction and an exclusive internal design that results in great ruggedness, high efficiency and long life. Groups of D-52's provide efficient and economical operation in tanks and vats of unlimited volume in all the usual cleaning solutions.

These Sonicells are powered in large installations by exclusive GU motor generators for maximum dependability. Smaller installations are powered by our Model 700 and Model 400 electronic generators designed for continuous operations. All controls are simple and easy to operate.

The increased power of these new units has proved highly successful for the most difficult and largest cleaning operations to remove dirt, buffing, grinding and lapping compounds and also to replace hand cleaning operations on blind surfaces.

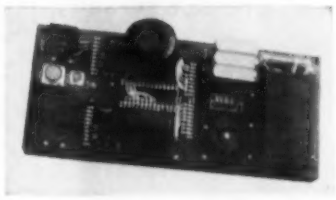
For further information or demonstration call or write.

THE GENERAL ULTRASONICS COMPANY
67 Mulberry Street • Hartford 3, Connecticut

THE ULTIMATE IN ULTRASONICS

For more details circle NED-85 D7 on enclosed inquiry slip

MAGNETIC AMPLIFIERS available in wide range of ratings



Applications for line of long-life magnetic amplifiers include voltage and frequency regulators for motors, servo controls, power amplifiers, static relays, lighting controls, safety devices and line voltage regulators. Containing no tubes or moving parts, they consist of a saturable reactor and rectifier, and are shock and vibration resistant. Ratings from microwatts to hundreds of watts are available. Made by **American Electronics, Inc.**, Electric Machinery & Equipment Div., Dept. 312, 655 W. Washington Blvd., Los Angeles 15, Calif.

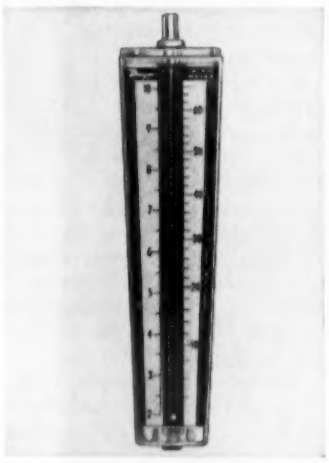
For more details circle NED-86 D7 on enclosed inquiry slip

SIGHT GLASS is hermetically-sealed in fitting

One-piece Hermetic Eye sight glass for checking the condition of liquid refrigerants is made from a forging, without joints, gaskets or fittings. Into the two ports is fused a heat resistant, high tensile strength glass. Unit is only slightly larger than the tubing in which it is placed. If the word "full" is clearly visible, the line is completely full of liquid. It can withstand 3000 psi. Made by **Superior Valve & Fittings Co.**, 1501 W. Liberty Ave., Pittsburgh 26, Pa.

For more details circle NED-87 D7 on enclosed inquiry slip

WIND METER is low cost, pocket instrument



Made of tough acrylic plastic, this pocket-size Wind Meter will accurately measure wind velocity. Developed originally for sailing enthusiasts, this device should find widespread application in industry. A lightweight plastic ball travels in a tapered tube to indicate wind pressure against a calibrated scale. Covering a top orifice with a finger switches the meter from 0 to 10-mph scale to 4 to 60-mph scale. This compact instrument will withstand rough treatment and sells for $4.95. Made by **F. W. Dwyer Mfg. Co.**, Dept. NDC, Box 373, Michigan City, Ind.

For more details circle NED-88 D7 on enclosed inquiry slip

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Fir Plywood

LIGHT, STRONG, DURABLE, REAL WOOD PANELS

For: BUILDING AND MAINTENANCE, SHIPPING CONTAINERS, PALLETS, PARTS BINS, PARTITIONS, TANKS, 1000 OTHER INDUSTRIAL USES

MORE versatile than any other material, fir plywood combines the workability of real wood, the economy of large size, the strength and rigidity of engineered panel construction. When you specify DFPA grade-trademarks, you're assured tested quality that meets strict industry requirements.

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Tacoma 2, Wash., Dept. 181 (Good USA Only)
☐ Please send Fir Plywood Purchasing Guide
☐ Information about using plywood for . . .

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Title
Firm
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City Zone State

For more details circle NED-89 D7 on enclosed inquiry slip

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New G-E Tri/Clad Motor Bulletin

Twelve pages . . . illustrated . . . deals with design, structure, testing, special advantages of various types of G-E Tri/Clad 55 Motors . . . 1-5 HP . . . available from Graybar . . . tips on installation and maintenance . . . just ask for your Tri/Clad Motor Bulletin. 721-284

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IN OVER 130 PRINCIPAL CITIES

Everything Electrical GraybaR ELECTRIC COMPANY

For more details circle NED-90 D7 on enclosed inquiry slip

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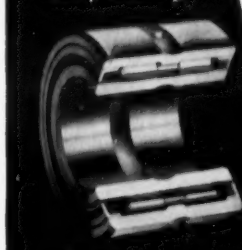
greater capacity



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sealed GUIDEROL® NEEDLE BEARINGS

An effective combination of full complement capacity, guided rollers and effective sealing is provided inexpensively with the SG series of sealed GUIDEROL bearings. Lip-seals are built into standard GUIDEROL bearings without increasing bearing width — interchangeable with ordinary needle bearings.

To seal lubricant in or keep dirt out, you will find the answer in one of five seal combinations possible with GUIDEROL SG series bearings.

Write for helpful bearing Handbook No. H-54-B

McGILL® precision needle bearings

McGILL MANUFACTURING CO., INC.
101 N. LAFAYETTE ST. VALPARAISO, INDIANA

For more details circle NED-91 D7 on enclosed inquiry slip

STOP! INJURIES AND WORK INTERRUPTIONS

from falling fluorescent-tube accidents

Fluorescent tubes sometimes fracture. Vibration and shock may release them from fixtures. Wherever fluorescent lighting is installed there is the possibility of physical injury and property damage resulting from falling tubes.

Don't wait for accidents to happen. For a few cents each you can keep tubes in place, prevent falling, insure against poisoning, contamination and spoilage, avoid injuries, work interruptions and loss of time.

Install Den-El fluorescent lamp guards, easily and quickly, with a screw driver. Permanent, positive protection. Stainless steel. Easily sprung aside for relamping or cleaning. Two guards for each lamp.

Types for all fixtures, also tubes in series

For 40W tubes, per C	**$19.00**
For 100W tubes, per C	**$22.50**

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For more details circle NED-92 D7 on enclosed inquiry slip

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Contains Chemical Reference Charts and Glove Selector Guide

Also FREE NEW 32-PAGE LINEMEN'S PROTECTIVE EQUIPMENT CATALOG

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For more details circle NED-93 D7 on enclosed inquiry slip

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Regardless of Price!

ENGINEERED YEARS AHEAD

- Complete bearing control throughout
- Synchronized 12-volt heavy duty system
- Feather-controlled stops
- Equipped with automatic charger and heavy duty industrial battery
- Self-aligning dual floor brakes

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Wisconsin Dells, Wisc.

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For more details circle NED-94 D7 on enclosed inquiry slip

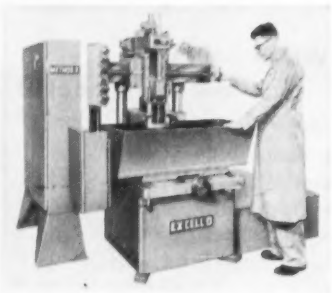
PLASTIC PLUGS & CAPS made in 10 different designs to protect threads, pipe and tube ends

Expanded line of Ca-Plug polyethylene cap and plug type closures now includes 10 different designs. Line now includes tapered types with wide, thick flanges; nonthreaded caps and plugs for electrical receptacles and connectors; threaded type for threaded fittings; threaded pipe plugs with square ends for hand or mechanical tightening; nonthreaded sleeve caps; and nonthreaded tubing plugs with flanges.

They serve as dust and moisture seals, shipping protectors and for masking purposes during dipping, painting and vacuum plating. Molded of tough, flexible polyethylene, they are impervious to all common chemical reagents and will not chip, break or shred. Ten standardized designs are stocked in over 300 sizes. Free samples are available from the manufacturer, **Protective Closures Co.**, CaPlugs Div., Dept. N, 2209 Elmwood Ave., Buffalo 23, N. Y.

For more details circle NED-95 D7 on enclosed inquiry slip

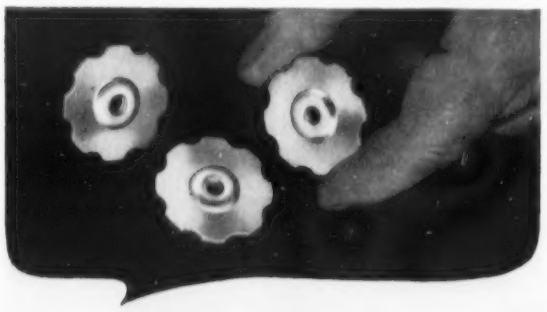
SPARK MACHINING UNIT will pierce, drill, trepan or tap hard metals by electrical impulse



Machining operations on carbide and other hard metals can be performed on this style 243-6 vertical Electro-spark machine. Unit will pierce, drill, trepan, tap or sink a cavity in any material that is an electrical conductor. It removes metal by means of a positive electrode or workpiece, and a negative electrode or tool, energized by high amperage electric current. Both are submerged in dielectric bath. When tool and work are brought close, controlled impulses remove particles of the work to form an inverse image of the tool.

Ejected particles are washed away by circulating fluid, leaving tiny crater-like depressions in the work. Cycle is repeated many times per second, until craters blend into a uniform matte finish. Tools used can be made from sheet brass, tubing or rod, depending upon shape required. Steel or other conductors can also be used. Made by **Ex-Cell-O Corp.**, 1216 Oakman Blvd., Detroit 32, Mich.

For more details circle NED-96 D7 on enclosed inquiry slip



RCA REPORTS "SUBSTANTIAL SAVINGS on Threaded Stampings from Mohawk"

By taking advantage of Mohawk's unique method of blanking, forming and threading in one completely automatic operation, RCA is now able to purchase this special ¼"-20 nut at substantial savings over former methods of production.

The threaded hole is held to any class fit required, so that ease of assembly is assured. Every part is usable—there are no rejects.

Whether you now make them in your own plant or purchase them, you can make substantial savings on large quantities of small threaded parts, and at the same time get guaranteed uniform quality by sending prints and specifications or writing to:

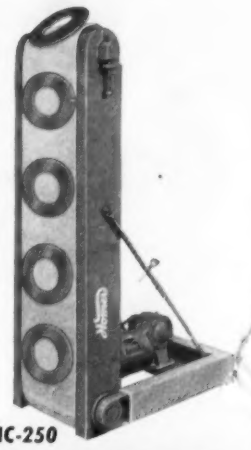
the mohawk mfg. co.
MIDDLETOWN, CONN.

For more details circle NED-97 D7 on enclosed inquiry slip

HOMER "Space Saver" MAGNETIC CONVEYORS

AUTOMATE PRODUCTION —CUT LABOR COSTS —REDUCE REJECTS in handling ferrous parts and scrap

- Automatically transfer parts, feed machines and stack parts in multiple machine operations. Convey on underside of belt for parts turn-over.
- Powerful permanent magnetic assembly securely holds and conveys ferrous parts and scrap up inclines as steep as 90° . . . without belt cleats or buckets. No loss of parts or scrap from belt resilience or bouncing over belt cleats.
- End damage to critical finish of parts as a result of parts riding against belt cleats or jamming in flapper gates.
- Steeper inclines permit close grouping of machinery to save floor space.
- May be loaded at any angle . . . at floor level or any level above floor from other conveyors, chutes or machines.
- Standard and custom models available.



WRITE TODAY FOR BULLETIN MC-250

THE HOMER MANUFACTURING CO., INC.
DEPT. 1-25 LIMA, OHIO

For more details circle NED-98 D7 on enclosed inquiry slip

Who's your tailor for special papers?

In recent years Mosinee has created hundreds of distinct types of sulphate paper to meet specialized packaging, processing and fabricating needs. What's more, Mosinee has the technology to readily custom-tailor these papers (or develop and quantity-produce new papers) to meet thousands of additional requirements.

Send for information file describing Mosinee's extensive research facilities, years of experience and technical consultant service.

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For more details circle NED-99 D7 on enclosed inquiry slip

"PACKAGE" DRIVES

MOTOR CLUTCH BRAKE

STARTS, STOPS AT CONTROLLED RATES

AUTOMATIC CYCLING FOR:

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- SHEARS
- HOISTS
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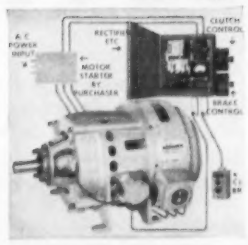
. . . many applications in automation

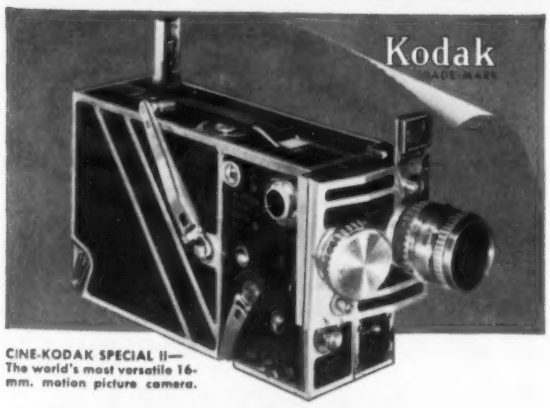


ERICSSON-MERRITT DRIVE WITH AUTOMATIC STOP-GO CONTROLS

Compactly built around rugged Fairbanks-Morse axial air-gap constant speed motor and nationally known time tested magnetic clutch and brake components. Can be operated up to 30 cycles per minute. Available in 1½ through 15 HP units, all with constant torque and at standard motor speeds between 600 and 1800 R.P.M. 15 HP unit is 18" in dia. by 25" long. May be ordered as standard units or complete with special control cabinet for automatic cycling. Write for details today.

ERICSSON-MERRITT, Inc.
506 PINE STREET • LOCKPORT, N. Y.

For more details circle NED-100 D7 on enclosed inquiry slip



CINE-KODAK SPECIAL II—The world's most versatile 16-mm. motion picture camera.

Make movies that work for you!

In almost every industrial activity—engineering, manufacturing, employee training, research, safety and methods evaluation—in-plant movies are the fastest, easiest, and most effective method for putting across your story.

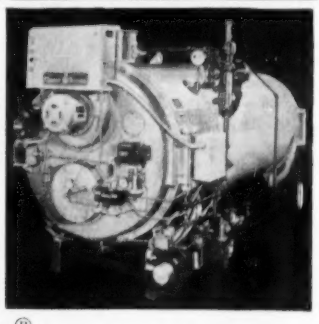
And for on-the-job movie making, many leading industrial companies have chosen the Cine-Kodak Special II Camera. It has the versatility to handle almost any type of job. Yet its simplicity of operation enables you to get high-caliber results almost as easily as taking home movies.

WRITE FOR FREE BOOKLET, V1-3, describing the Cine-Kodak Special II.

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

For more details circle NED-101 D7 on enclosed inquiry slip

PROTECTS this BOILER better than any other finish!



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HEAT RESISTANT FINISH

● SICON gray and SICON Maroon are used on all models of the "CB" line of packaged boilers, manufactured by Cleaver-Brooks, Milwaukee. SICON retains its color and gloss in the range of 500° F., far above the hottest skin temperatures of the boiler.

SICON is easy to apply—one sprayed on coat does the job. It dries fast, and protects the surface for the life of the unit. If your product generates sustained heat you need SICON, *the finish that has stood the test of heat and time.* Write today! Dept. D-8

MIDLAND Industrial Finishes Co.
WAUKEGAN, ILLINOIS

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SYNTHETICS
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For more details circle NED-102 D7 on enclosed inquiry slip

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TEXTILE • RUBBER • PAPER • PLASTIC and other industries

• *The CAP WELD SHELL shown above is designed for heavy duty rolling and offers the maximum in long-life service.*

OPTIONAL TYPES
• CAP WELD SHELLS
• MACHINE ROLLS
• LAG ROLLS
• CAPPED END SHELLS
• CAPPED SQUARE SHELLS

These cylinders are all available in standard diameters or can be supplied on order to meet your individual specifications.

CYLINDER MFG. CO.
HAWTHORNE, N. J.
ESTABLISHED 1916

Send for descriptive Brochure

For more details circle NED-103 D7 on enclosed inquiry slip

GUN DRILL REAMER
carbide tip brazed to tubular shank

Production advantages of a gun drill are combined with those of a carbide reamer in this two-flute Starbore reamer. Tool has molded solid carbide tip brazed to a tubular steel shank and is well suited to enlarging previously drilled or cored holes to finish size in cast iron, bronze, aluminum and steel. Coolant under pressure is directed through shank into both flutes. Reamers are used in conjunction with a bushing which guides tool in initial reaming stages. They are made in various sizes in either straight or tapered shanks. Coolant pressures from 75 to 400 psi are required. Made by **Star Cutter Co.**, 34501 Grand River Ave., Farmington, Mich.

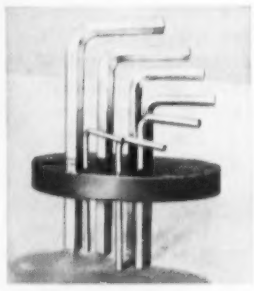
For more details circle NED-104 D7 on enclosed inquiry slip

SNAGGING WHEELS
use aluminum oxide abrasive

Fast metal removal with long grinding wheel life results from use of an improved aluminum oxide abrasive in these high-speed, resinoid bonded snagging wheels. The DA Borolon fused crystalline abrasive has small crystalline structure within each cutting particle. This provides an inherent toughness for resistance to fracture under grinding strain and presents continuous succession of sharp cutting edges on the wheel face. Wheels can be operated at speeds up to 9500 sfpm. Made by **Simonds Abrasive Co.**, 5514 Tacony St., Philadelphia 37, Pa.

For more details circle NED-105 D7 on enclosed inquiry slip

HEX-WRENCH HOLDER
in seven and ten-key sizes



This plastic Handy Holder for L-type hex wrenches holds up to 10 tools. Holder is not affected by grease, oil or acid. Proper wrench selection is easy since all wrenches are in full view at all times. Holes are slightly undersize to hold wrenches snugly. Popular seven-key size holds wrenches from 5/64 to ¼-in., while the ten-key size holds a tool selection from 0.050 through 5/16-in. Made by **Hunter Tool Co.**, 6606 S. Gretna Ave., Whittier, Calif.

For more details circle NED-106 D7 on enclosed inquiry slip

if Your Product requires . . .

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METAL TUBE
ASSEMBLIES

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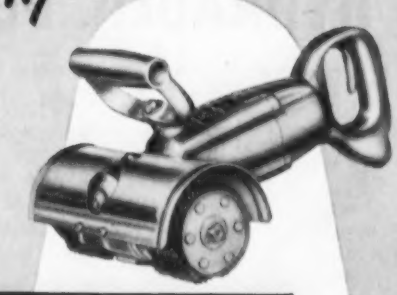
For more details circle NED-107 D7 on enclosed inquiry slip

Chip Away



SCALE
RUST
PAINT

AURAND CLEANING TOOLS
ELECTRIC OR PNEUMATIC MODELS

Surfaces are cleaned quickly with AURAND on the job. Hardened steel cutters zip away stubborn accumulations from iron, steel, brick, concrete. Adjustable depth shoe protects surface . . . assures uniform cleaning. No special skill required. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write Dept. 14 for complete details

AURAND MFG. & EQUIPMENT CO.
1210 Ellis St., Cincinnati 23, Ohio

For more details circle NED-108 D7 on enclosed inquiry slip

LAPIDOLITH HAS CASE-HARDENED FORD MOTOR'S CONCRETE FLOORS FOR OVER 40 YEARS

Since their original order in 1915, Ford Motor Company has hardened millions of square feet of concrete floors with LAPIDOLITH

The powerful hardening action of Lapidolith makes concrete floors harder and more dense to prevent their crumbling and dusting under wearing action!

Only one inexpensive treatment is necessary, because liquid Lapidolith penetrates deeply into concrete to harden in *depth* as well as on the *surface*.

LAPIDOLITH the concrete hardener backed by a bonded guarantee!

When floors are Lapidolized according to specifications, L. Sonneborn Sons, Inc. makes available a Bonded Guarantee (backed by the National Surety Corporation of New York)—assurance that concrete floors are hardened and will not dust or crumble under wearing action!

A Product of Sonneborn RESEARCH

Makers of Hydrocide Colorcoat
Hydrocide S • X Colorless
Hydrocide Dampproofings

MAIL COUPON FOR FURTHER INFORMATION

L. SONNEBORN SONS, INC.
Building Products Division Dept. N-4
404 Fourth Ave., New York 16, N. Y.

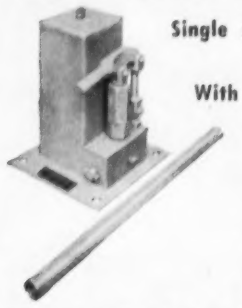
Gentlemen:

We are interested in more information on the concrete hardening properties of Lapidolith.

Name _____
Company _____
Location _____
City _____ Zone _____ State _____

For more details circle NED-109 D7 on enclosed inquiry slip

HAND HYDRAULIC PUMP



Single and Double Designs to 20,000 Psi
With or Without Reservoir

160 Cubic Inch Reservoir with 8" x 8" Base Plate. Optional Size Piston: 3/8", 1/2", 3/4", 1". Handle length: 18 inches. Catalog No. 160

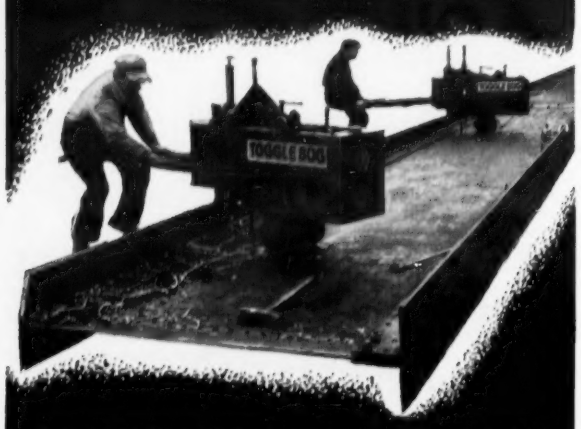
We specialize in hand pump units to operate in temperatures from minus 65F to plus 160 F and with any capacity reservoirs required.

The single pump with 1/2" or 3/4" piston now available in stainless steel.

WILLIAM S. PINE
Hydraulic Hand Pumps for 1001 Uses
1635 E. 22nd St., Los Angeles 11, Calif.

For more details circle NED-110 D7 on enclosed inquiry slip

move the drill, not the material



save time and money with the
Guibert TOGGLE BUG
— a versatile, portable drill press

- Drills—reams—countersinks.
- Move the machine, not the material . . . the "Toggle Bug" can pay for itself in practically no time from savings on handling costs alone.
- Drill several pieces simultaneously . . . cut layout time, cut drilling time, and insure a perfect fit on operations such as building up girders.
- For holes to 2½" diameter and larger.
- Material need not be leveled.
- Drills in any spot on any structural shape.
- Easily moved and operated by one man.
- Drilling the material where it lies eliminates costly delays when crane and hoist facilities are overloaded.
- When shops are over-crowded, drill right out in the yard.
- Backed by more than a quarter of a century of use by steel fabricators, shipyards, railroad car rebuilding and repair shops and others with similar drilling problems in all parts of the world.
- New 8-page bulletin explains how you save 4 ways with the "Toggle Bug" — and gives complete specifications and construction details. Write for your free copy today.

Guibert Steel Company
P. O. Box 4342 Pittsburgh 4, Pa.

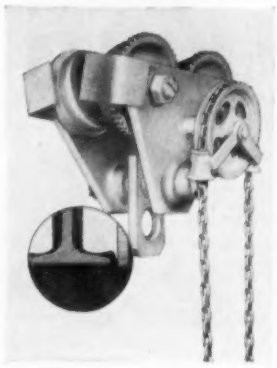
For more details circle NED-111 D7 on enclosed inquiry slip

FILM THICKNESS GAGE
also checks plating thickness

Type 255-A Film Gage is an electronic instrument for quickly measuring plating and film thickness on conductive materials. It will check the thickness of anodic films on aluminum and magnesium as well as such insulating films as organic paints, porcelain, enamel and other nonconductive coatings. It will also aid in sorting metals according to their electrical conductivity and in matching metals in accordance with their magnetic properties. Plating such as silver, gold, chromium and cadmium on copper, aluminum and other nonmagnetic base materials can be measured. Thickness of copper and other nonmagnetic films on glass, plastic, ceramic and other insulating base materials can be checked. Made by **Boonton Radio Corp.**, Dept. NE, Boonton, N. J.

For more details circle NED-112 D7 on enclosed inquiry slip

I-BEAM TROLLEYS
3 to 10-ton push, hand geared types



Capacities from 3 to 10 tons are available in Budgit Hi-Cap I-beam trolleys in both push and hand geared types. Trolleys have life-lubricated bearings and employ forged alloy steel wheels with crowned treads that have been case hardened for wear resistance. Crowning allows trolleys to operate equally well on all I-beam flange tapers from 0 through 15 degrees Hand geared trolley shown is identical to the push type except for addition of gearing, hand chain wheel, hand chain and guide. All capacities are easily adaptable to wide range of I-beam sizes by rearranging the spacer washers on the cross shaft. Made by **Manning, Maxwell & Moore, Inc.**, Shaw-Box Crane & Hoist Div., Park St. & Broadway, Muskegon, Mich.

For more details circle NED-113 D7 on enclosed inquiry slip

Flare Tube Fittings

Parker Appliance Co., Tube & Hose Fittings Div.—Brass, steel, stainless steel and aluminum tube fittings are available in the Triple-lok line described in illustrated 52-page catalog 4310. Covered are all shapes, including new swivel nut type and straight threaded fittings with O-rings for new SAE straight thread boss. Available sizes and dimensions of each are given.

For more details circle NED-114 D7 on enclosed inquiry slip

SPEED PRODUCTION
SAVE THE HANDS

IPCO PUNCH PRESS FEEDER

A speed-up tool for lifting, feeding and positioning blanks of metal and other materials in stamping machines, and die presses without inserting the hands or fingers within the danger zone . . . Used for separating sheets, transferring from piles or stacks. Many other uses on all non-porous materials — flat or curved surface.

WRITE FOR BULLETIN NO. 13

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-115 D7 on enclosed inquiry slip

NEW BOOKLET AVAILABLE ON JOY LIMBEROLLER® BELT CONVEYOR IDLER

Booklet contains design and application data for those who specify and purchase belt conveyors for handling any bulk material . . . especially those with abrasion, corrosion, or lubrication problems.

The Limberoller is a single roll idler consisting of neoprene discs molded to a flexible steel cable. The entire idler turns on its own axis. Only two bearings are used, one at either end, up out of the dirt. The flexibility of the entire idler imparts a self-cleaning action—prevents material buildup.

Many companies have received over 10 times the service life of conventional idlers and adopted Limberollers as standard for all belt conveyor operations. Write for Bulletin 161-54.

WSW L6536-161

JOY EQUIPMENT FOR ALL INDUSTRY

JOY MANUFACTURING COMPANY, OLIVER BLDG., PITTSBURGH 22, PA.
IN CANADA: JOY MANUFACTURING COMPANY, (CANADA) LTD., GALT, ONTARIO

For more details circle NED-116 D7 on enclosed inquiry slip

ROBINTRONIC
AUTOMATIC LEVEL INDICATOR FOR BULK MATERIALS HANDLING

Single Unit
One probe and complete self-contained electronic control unit.

Dual Unit
Two independently operating probes and single control unit.

This accurate, easily installed electronic unit actuates an audible or visible signal to warn operators when materials vary from the pre-set level. When equipped with a power relay, it can also control the flow of materials by stopping and starting motors and other equipment.

RoBINtronic requires neither adjustment nor lubrication. It is engineered for heavy industrial service and functions with materials of all densities from rock and coal to grain and sand.

Send for free Bulletin 166, Department R, Hewitt-Robins, Stamford, Connecticut.

HEWITT-ROBINS

For more details circle NED-117 D7 on enclosed inquiry slip

NEW WRIGHT Type "C" Block Chain Ratchet Lever Pull-A-Way

FEATURES

- Hooks are drop-forged
- Special alloy-steel chains
- Chain sheaves of drop-forged alloy steel
- Gear teeth cut to precision limits
- Load brake is dependable and safe
- 1½-ton Pull-A-Way (pictured) weighs only 23½ pounds

Write to York, Pa., office for complete information

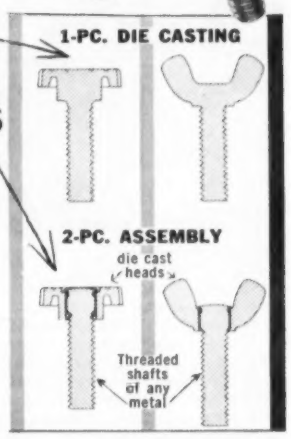
THREE SIZES
1½, 3 and 6 TONS

ACCO for Better Values
Wright Hoist Division
AMERICAN CHAIN & CABLE
York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-118 D7 on enclosed inquiry slip

GRC die cast WING & THUMB SCREWS

4 types to meet ALL needs



GRC offers you quality, quantity and economy PLUS your choice of two basic styles — **one-piece** zinc alloy die cast fasteners or **assembled** zinc alloy blanks with screw material of steel, brass, aluminum or other metals to order. **Wing Screws** have special patented recessed finger grip, generous washer-type shoulder. **Thumb Screws** have exclusive wide top for firm, comfortable grip—plain or shoulder type—All have **clean accurate** threads — rustproof, noncorrosive, bright finish.

Select from huge catalog stock of threads, styles and lengths. Another example of GRC's **wide** variety of fasteners — wing nuts, cap nuts, thumb nuts, rivets, etc.—die cast in quantity for greater economy!

Write today for prices and bulletin

See us at Booth 421 Design Engineering Show May 20-23rd, N. Y.

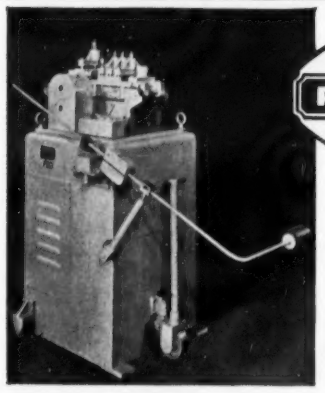
World's Foremost Producer of Small Die Castings

GRIES

GRIES REPRODUCER CORP.

143 Beechwood Ave., New Rochelle, New York • NEw Rochelle 3-8600

For more details circle **NED-119 D7** on enclosed inquiry slip



U S PRODUCTS

REDUCE PRESS-ROOM COSTS

Model PDS-4½ U. S. Power Driven Straightener suitable for material up to 4½" wide, ⅛" thick, with variable speed drive, loop control mechanism, and casters for portability.

Improve your press operations and reduce costs with units such as the Model PDS-4½ Power Driven Straightener. Successful press operations depend on a number of factors including the press, die, feeding mechanism and condition of the stock. The presence of "coil set" in the stock can result in lost production and expense due to jam-ups and breakage. The addition of a U. S. Straightener to the set-up can help you gain the full benefits from the use of coil stock — increased production and reduced costs. The unit illustrated is just one of a range of sizes and types we manufacture.

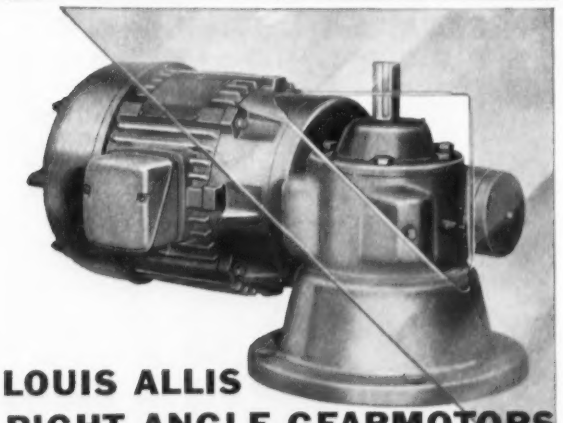
★ **U. S. PRODUCTS**
- Slide Feeds
- Roll Feeds
- Stock Straighteners
- Stock Reels
- Stock Oilers
- Coil Cradles
- Wire Straighteners
- Die Sets
- Multi-Slides (R)
- Multi-Millers (R)

Your inquiries are invited. Ask for Bulletin 125N

U. S. TOOL COMPANY, Inc.

AMPERE (East Orange) NEW JERSEY

For more details circle **NED-120 D7** on enclosed inquiry slip



LOUIS ALLIS RIGHT ANGLE GEARMOTORS —up to 30 hp!

Louis Allis right angle gearmotors are now available in sizes up to 30 hp, and in a wide range of enclosures and electrical characteristics.

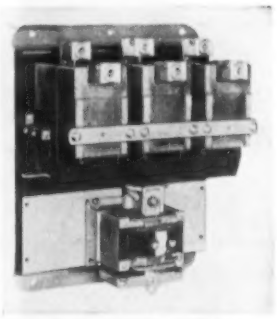
Louis Allis offers you industry's widest selection of gearmotors: helical gearmotors, Line-O-Motor, and right angle worm gear motors for horizontal or vertical mounting.

Pick the gearmotor that exactly fits your need from the complete line of L-A motorized drives. Contact your Louis Allis District Office or the Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wisconsin.

LOUIS ALLIS

For more details circle **NED-121 D7** on enclosed inquiry slip

SOLENOID CONTACTOR
150-amp NEMA size 4 unit



Designed for use in motor starters and controllers, this 150-amp standard NEMA size 4 alternating current contactor can be applied as a main line, accelerating or reversing unit. One of a line of NEMA sizes from 0 to 4, it can also be used to control heater and lamp loads. Heavy inrush currents are handled by sintered silver-cadmium-oxide main contacts without welding or excessive pitting. Four optional side-mounted auxiliary contacts, with normally-open, normally-closed or double-throw contacts, extend usefulness. Standard coil voltages are 110, 220, 440 and 550 at 25 or 50/60 cycles. Size is 6¾ x 10 15/16 x 13 7/16 in. Made by **Ward Leonard Electric Co.,** 51 South St., Mt. Vernon, N. Y.

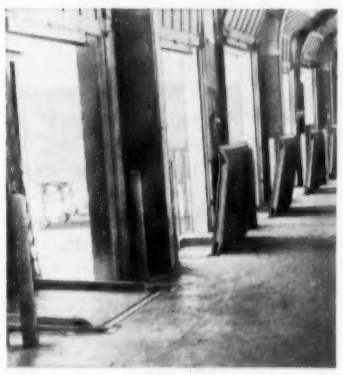
For more details circle **NED-122 D7** on enclosed inquiry slip

ORLON FELTS
for wet and dry filtration uses

Chemically shrunk Orlon felts are available on a commercial basis for industrial wet and dry filtration applications and other uses. They are made in weights ranging from 8 oz to 8 lb per square yard. Uses also cover those applications formerly filled by woven Orlon structures based on continuous filament yarn, no longer commercially available. Made by **American Felt Co.,** 80 Glenville Rd., Glenville, Conn.

For more details circle **NED-123 D7** on enclosed inquiry slip

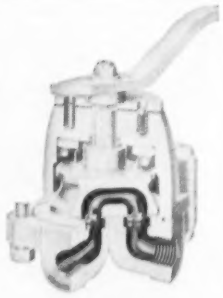
DOCK BOARD SYSTEM
automatic operation is optional



Line of standard magnesium dock boards permanently installed on concrete docks represents a practical answer to companies faced with installation of permanent - type dock levelers. Perma - Docks self-adjust to truck or trailer floor levels automatically. Designed for minimum set-back, they swing up and out of the way when not in use. Electric-hydraulic system for automatic operation is optional. Safety curbs, crowned design, flared curb ends and beveled edges are features. System developed by **Magline Inc.,** Box 200, Pinconning, Mich.

For more details circle **NED-124 D7** on enclosed inquiry slip

DO YOU **CONTROL** YOUR HI-PRESSURE CIRCUITS?



1. *Can you shut off flow tightly?*
2. *Can you throttle gradually?*
3. *Can you get full flow?*

1. Manual Shear-Seal valves (1500, 3000 and 6000 P.S.I.) are leakproof and stay leakproof for years of service with little or no maintenance; no internal port to port leakage in the detented positions and, of course, no external leakage. Sealing qualities actually improve with use, due to wear compensating lapping action of "Shear-Seals."

2. You get excellent throttling, smooth action to any degree of flow without fighting the fluid pressure.

3. Quick as a quarter turn of the handle you can open the full flow (or shut it off) with surge dampening action, because the round tubular passages have no spools or poppets obstructing flow.

BARKSDALE VALVES

5125 Alcoa Avenue, Los Angeles 58, California

Ask for bulletin 5-H, -A and -W.

For more details circle **NED-125 D7** on enclosed inquiry slip

WHAT DO YOU KNOW ABOUT

PORTELVATOR®

The Handy HAMILTON Portable Elevating Table

Unobstructed Perimeter (Work From ANY Side)
3 Table Surfaces
4-Point Support
Capacities to 5,000 pounds
4-Wheel Models
6-Wheel Models
Special Designs TOO!

You should know the WHOLE STORY

Write * for NEW, FREE Bulletin No. 2411

ADDRESS

THE HAMILTON TOOL COMPANY
901 Hanover Street
HAMILTON, OHIO

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

2411

For more details circle **NED-126 D7** on enclosed inquiry slip

Hanger at N. Y. International Airport

These Concrete Floors are protected with SonNoMar for Lockheed Aircraft Service-International, Inc.

SonNoMar is a blend of newly-developed resins. Available in red, green, light gray, dark gray or transparent finish. Its attractive glossy coating resists trucking, oils, greases and most chemicals.

USE SonNoMar to dustproof concrete. It binds surface particles together and seals pores with a flexible finish highly resistant to abrasion.

USE SonNoMar for easy maintenance. Its tough, smooth, glossy surface is readily cleaned. It retains its attractive appearance.

SonNoMar

A Product of Sonneborn RESEARCH

L. SONNEBORN SONS, INC.
Building Products Division—Dept. NE4
404 Fourth Ave., New York 16, N. Y.

☐ Send further information on SON NO MAR for concrete floor protection.
☐ Also send FREE 128-page Building Construction and Maintenance Handbook.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

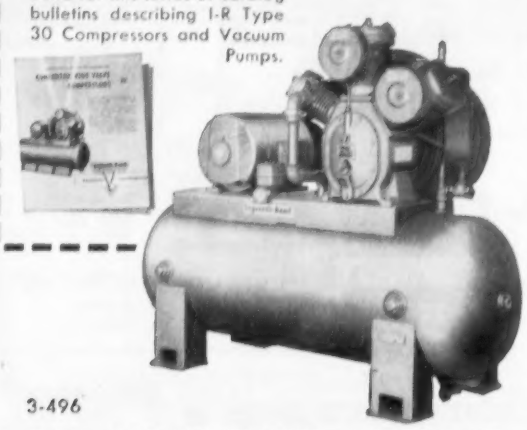
For more details circle **NED-127 D7** on enclosed inquiry slip

Ingersoll-Rand Type 30 Air Compressors

½ to 20 hp Balanced V Construction engineered for dependability . . . more air per horsepower!

Ingersoll-Rand
11 Broadway, New York 4, N.Y.

Send for this series of catalog bulletins describing I-R Type 30 Compressors and Vacuum Pumps.



3-496

For more details circle NED-128 D7 on enclosed inquiry slip

CRANE WHEELS AND WHEEL ASSEMBLIES

INSTALL THESE WHEEL ASSEMBLIES complete with axles, bearings, drive gears, grease fittings and all necessary parts for a complete installation. There are sizes, types, and styles of mounting to suit every requirement.

DOUBLE FLANGED WHEELS range in standard tread diameters from 7½" to 24"; SINGLE FLANGED WHEELS from 4" to 8". Wheels are available unmounted or in completely assembled units.

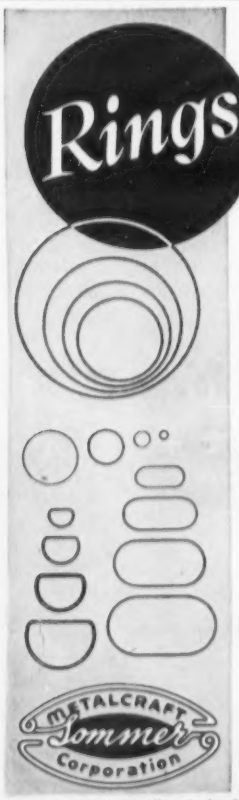
WRITE FOR CATALOG — Complete line of Downs Crane Wheels and Assemblies are illustrated and described in new Catalog 354-6. Specifications included. Write today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks
Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake Crane Hook Blocks

For more details circle NED-129 D7 on enclosed inquiry slip

Rings . . . one of many wire products we make



Let Sommer solve your ROUND wire ring problems—including ring assemblies such as fan guards, grills, etc. Butt-welded and unwelded rings are our specialty.

Any gauge of wire up to ¼"—any sizes up to 24" in diameter, Sommer's modern, high-production equipment assures close-tolerance job specifications. Complete facilities for making "D" and oval rings as well.

Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome, and mill finishes.

Let us work with you in designing and producing any wire shapes or forms you require. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

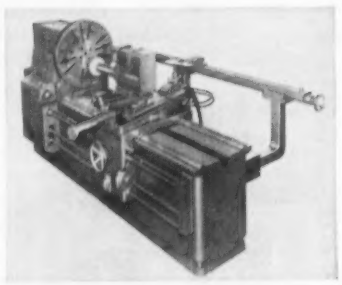
For more details circle NED-130 D7 on enclosed inquiry slip

DIMPLING MACHINE for use on high temperature alloys

Depending on fastener type and size, dimpling capacity of model C-125 Airflex Camtrol dimpling machine is up to 0.125-in. It will handle the softer alloys as well as the high temperature alloys, including vanadium and manganese alloys of titanium. Machine can spin-impact pierce through 0.150-in., spin-impact rivet through ⅜-in. mild steel, squeeze rivet and pierce with 13-ton pressure. High frequency impacts plus spinning re-form delicate metal structures rapidly by minute radial stages without shearing. Work cycle is automatic on the 24-in. throat machine. Available on lease or purchase-license basis from **Lemert Engineering Co.**, 203 E. Jefferson St., Plymouth, Ind.

For more details circle NED-131 D7 on enclosed inquiry slip

HYDRAULIC CONTOUR GRINDER tracer controlled machine grinds both internal and external contours



Intricate contours, both internal and external, are ground automatically on this hydraulic contour grinder which employs standard flat wheels dressed to simple radii. Tracer controlled machine features three angularity adjustments in a single swiveling or pivoting unit to assure accurate contact between tracer stylus and template. First, a swiveling grinder spindle, mounted on the tracer slide, will swing in 180-degree arc. Second, tracer slide mounted turret-wise on carriage is free to swivel 110 degrees with tracer stylus. Third, tracer stylus also swivels 180 degrees and is mounted on end of tracer slide.

Head stock range is from center to 39 in. on outside diameter work and will carry work pieces weighing over 1 ton. Bed is 121¾ in. long and 24 in. wide. Machines are also being built to specification. Grinder spindle will accept 1¼-in. diameter bore and from 3½ to 8 in. diameter grinding wheels. Spindle speeds afford work head range from 0 to 220 rpm, and on grinder head, 3450 rpm. Made by **Industrial Tool Engineering Co.**, 13849 Keal, Detroit 27, Mich.

For more details circle NED-132 D7 on enclosed inquiry slip

Superior's New HEAVY DUTY AIR HAMMER

Delivers 2200 Blows Per Minute at less than 80 P.S.I.

. . . Yet operates with one Hand

Superior's New Model HD 500 Heavy Duty Air Hammer has a longer stroke, bigger piston and more punch. Used for heavy cutting, chipping, chiseling or grooving—yet it weighs less than 4 lbs., measures 9½" overall. Extremely maneuverable, it keeps operator fatigue at a minimum.

18 Tools Available For 100 Different Jobs
Each tool is specially designed for the HD 500. Patented safety chuck locks tool in six different positions. Blanks available for making tools of your own design.

- Scaling Tool
- Routing Chisels
- Flat Chisel
- Peening Tool
- Finishing & Forming Tool
- Star Drills
- Oil Groove Chisel
- Sheet Metal Cutter
- Panel Cutter
- Spoon Face Chisel
- Gouge
- Wood Chisel
- Wedge Driver
- Paint Scraper

For full details, write Dept. N-4

SUPERIOR PNEUMATIC & MANUFACTURING, INC.
4758 Warner Rd. Cleveland 25, Ohio
Sales offices in Principal Cities

For more details circle NED-133 D7 on enclosed inquiry slip

When you get your sample, examine it closely . . . you'll be looking at the answer to many of your machinery mounting problems.
You stop machine creeping without bolting, stop vibration and noise transmission with New Elasto-Rib. The all directional waffle-grip neoprene and resilient cork combine to form a non-slip cushion.
New Elasto-Rib is available in sheets; or with a load-distributing steel plate; or made up into Leveling Dampers.
We'll include complete data with your sample. Write today, mentioning Bulletin 42.

THE KORFUND COMPANY, INC.
KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK
48-35P Thirty Second Place, Long Island City 1, N. Y.
In Canada: 510 Canal Bank, Ville St. Pierre, Montreal

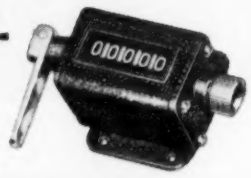
For more details circle NED-134 D7 on enclosed inquiry slip

VEEDER-ROOT

means "the TOPS" in HAND COUNTERS

Hand Tallies and Vary-Tally Multiple-unit Hand Counters give you quick spot checks of production, performance, traffic, stock, etc.

MECHANICAL COUNTERS



Small Resets (and other types) are built into machine tools, light presses, etc., for counting strokes, turns or pieces.

ELECTRICAL COUNTERS

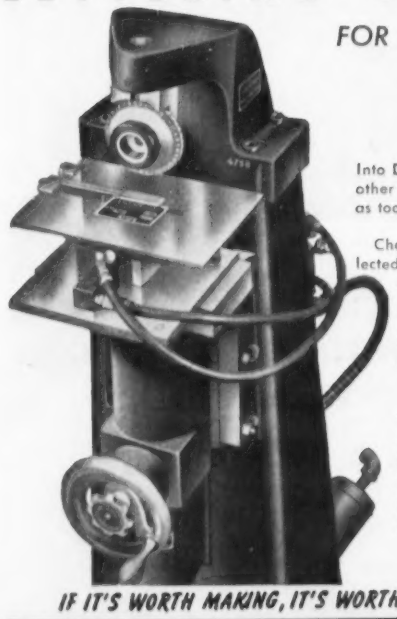
Remote-indicating counters (AC or DC) bring your production machines as close as your office wall.

SEE YOUR INDUSTRIAL SUPPLY DISTRIBUTOR
or write VEEDER-ROOT INC., Hartford 2, Conn.

"the Name that Counts"

For more details circle NED-135 D7 on enclosed inquiry slip

PNEUMATIC LETTERING POWER PRESS



FOR STAMPING SELECTIVE LETTERING

Into DIE components and other metal parts such as tools, gauges and jigs.

Characters are selected by turning dial and are stamped into part when foot pedal is depressed. Spacing of characters is automatic.

Requires 20 to 40 pounds line pressure. Write today for further information on this or any other member of the famous GTS line.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

For more details circle NED-136 D7 on enclosed inquiry slip

Advanced Design

PNEUMATIC CONTROLLERS

. . . Masoneilan 60000 Series

Special gimbal design provides exceptional versatility. Four combinations of primary and feedback motion. Three control types in one instrument: On-Off, Proportional and Differential Gap — each with direct or reverse action. Simple individual and interchangeable subassemblies; plug-in connections for pneumatic units.

Use this 60,000 Series as basic instrument for process control: unsurpassed accuracy for measurement and pneumatic control of pressure, temperature, flow, liquid level and related variables.

SEND FOR TECHNICAL BULLETIN . . . complete facts and specifications for easy selection.

MASON-NEILAN

Division of Worthington Corporation

69 Nahatan Street, Norwood, Massachusetts

A complete line of Control Valves, Control Instruments, Regulators, Liquid Level Controllers and Special Process Control Equipment.

For more details circle **NED-137 D7** on enclosed inquiry slip

It's Here...

A Single Built-in KLIXON Protector Gives Full Protection Engineered into

3-Phase Motors

Specify and use motors with Built-in KLIXON Protectors

Eliminate Motor Burnouts, Reduce Production Down Time, Simplify Motor Controls, Minimize Motor Repairs and Replacements, Assure Maximum Motor Capacity Under Any Conditions

Now you can get the same dependable protection in 3-phase motors that manufacturers have for years built into single phase motors. This inherent protection is now available to manufacturers of 3-phase motors covering a horsepower range from fractional up through 7½ hp. (600V.)

KLIXON Protectors Prevent Overheating Caused By:

1. Prolonged overloads
2. Single phasing
3. Stalling
4. Failure to start
5. Lack of ventilation
6. Increase in ambient temperatures
7. Plugging or reversing duty

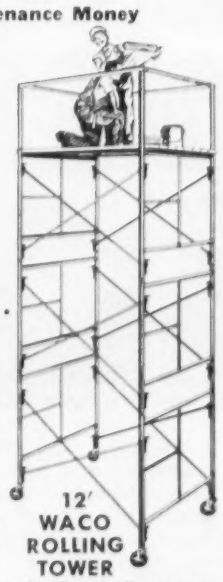
Specify and use motors with Klixon Inherent Protectors. Write for Bulletin MOPR1 for details of inherent motor protection.

METALS & CONTROLS CORPORATION
SPENCER THERMOSTAT DIVISION
3304 Forest Street, Attleboro, Mass.

For more details circle **NED-138 D7** on enclosed inquiry slip

NEW MANUAL tells how WACO Light Duty Rolling Towers Save YOU Maintenance Money

Copy Sent Upon Request



Waco Light Duty Rolling Towers are unparalleled for their versatility. Use Waco Light Duty Rolling Towers and you'll save money by reducing maintenance costs, increasing productivity (because less time is involved in moving, erecting and dismantling) and reducing workman fatigue.

This manual explains further how Waco Light Duty Rolling Towers bring you all these benefits at low cost. For instance, a 12′ rolling tower, with free-running rubber casters, and "Speedlock" method of attaching crossbraces to end frames, is only $112.00. Guard rails available at extra cost.

Send for your free manual today.

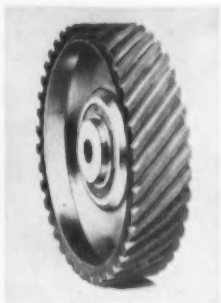
12′ WACO ROLLING TOWER with "Speedlock" only **$112.00**

Price includes 4″ rubber casters

WACO MANUFACTURING CO.
3565 Wooddale Avenue • Minneapolis 16, Minnesota

For more details circle **NED-139 D7** on enclosed inquiry slip

RUBBER CONTACT WHEELS
increase life of abrasive belts



Backstand grinding and polishing operations are performed with abrasive belt life increased as much as 40 per cent when this X-wheel rubber contact is used. Abrasion-resistant neoprene wheel has slashed serrations, wider than usual lands and conforms readily to work surfaces without leaving any marks on the workpiece. Cold-rolled 11-gage steel disk assembly is of welded construction. Wheel is offered in 14-in. diameter with 1, 2, 3 and 4-in. face widths in all hardnesses for use with any type of abrasive belt. Worn wheels have a 30 per cent trade-in value. Developed by Minnesota Mining & Mfg. Co. and distributed by **Chicago Rubber Co.,** Dept. 157, 651 Market St., Waukegan, Ill.

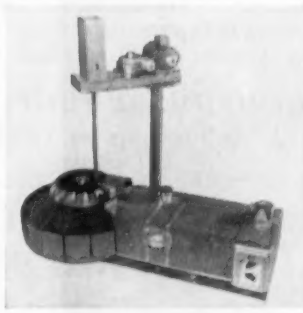
For more details circle **NED-140 D7** on enclosed inquiry slip

PLASTIC-COATED GLOVES
provide nonslip grip when wet

Coated with a vinyl plastic, Snorkel line of work gloves provides a sure, nonslip grip on wet surfaces. Plastic resists abrasion, oils, acids, caustics and many solvents. Gloves have jersey liners for comfort and flexibility. Fully coated knit-wrist (illustrated), 12-in. gauntlet and palm coated knit-wrist styles are available. Made by **Edmont Mfg. Co.,** 1240 Walnut St., Coshocton, O.

For more details circle **NED-141 D7** on enclosed inquiry slip

UNIVERSAL SORTING MACHINE
averages 10,000 pieces per hour



Anything from bearing balls to gears and piston pins can be sorted into as many as 13 categories by the Autosorter. Machine is based upon a no-drift electronic principle of gaging, plus a simple mechanical memory system. It can be used for increments from 10 millionths to 10 thousandths. Accuracy between classes is within 0.000002-in. Speed averages around 10,000 pieces per hour, depending upon size and type of piece. A stroboscopic light in window indicates out of roundness of balls and rollers. Equipment is portable. Made by **Industrial Gauges Corp.,** EAM Div., Dept. N, West Englewood, N. J.

For more details circle **NED-142 D7** on enclosed inquiry slip

Boost Output 30%-75%-100%- OR MORE With Amazing LIPE Automatic Bar Feeds!

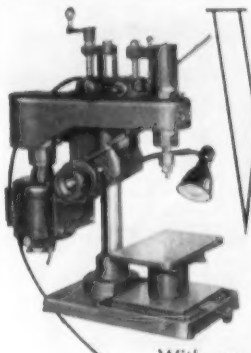
Air-operated and fully automatic, Lipe Magazine-Loading Bar Feeds have proven records of increasing machine tool production 100% and more in many applications. They feed a continuous supply of bar, rods or tubing to any machine which can be equipped with a feed-length stop. Ideal for screw machines, turret lathes, centerless grinders, punch presses, thread rollers, etc.

SEND TODAY for free folder and complete details on how Lipe Automatic Magazine-Loading Bar Feeds can boost your production and profits.

Lipe-ROLLWAY CORPORATION
SYRACUSE 1, N. Y.

Manufacturers of Automotive Clutches and Machine Tools

For more details circle **NED-143 D7** on enclosed inquiry slip



Varimatic®

THE SUPER SENSITIVE, SMALL-HOLE, PRECISION DRILLING MACHINE

"for the finest work you do"

With capacity of .004″ to ⅜″ in *all* drillable materials, and spindle speeds from 840 to 9300 R.P.M. infinitely variable in two speed ranges . . . *this* is the machine which the precision industries rely upon to handle the "heart-break jobs."

You will want **FULL INFORMATION** and we will be glad to furnish it.

Ask for our **FREE BULLETIN NO. 2489**

ADDRESS
THE HAMILTON TOOL COMPANY
901 Hanover Street
HAMILTON, OHIO

IT'S A *Hamilton Tool*
USE IT WITH CONFIDENCE

2489

For more details circle **NED-144 D7** on enclosed inquiry slip

OZALID®
First Name in Whiteprinting

Big machine volume and speed in this compact new

PRINTMASTER 810

Sturdy, compact, smartly styled, the new medium-priced Printmaster 810 has *everything*—easy, low-cost operation, high speed and *big machine* production capacity.

It prints and develops in one continuous operation at speeds up to 40 feet per minute . . . easily handles roll or cut stock as wide as 42 inches. Easy-to-reach controls command quick response throughout the machine's entire operation. Developing and printing sections are automatically synchronized for simplest operation at any speed.

Complete diffusion of vapors through exclusive "jet-nozzle feed" insures uniform, dry, fully developed prints. Spacious receiving trays automatically stack prints in sequence. Electrically welded one-piece assembly stands 61″ high, 61″ wide, 42″ deep (including feedboard).

See and try the Printmaster 810 yourself. Call your nearest Ozalid distributor for a demonstration. His number's in the phone book, or write Ozalid, Dept. S-4, Johnson City, N. Y., for descriptive brochure.

OZALID®
DIRECT COPY SYSTEMS

A Division of General Aniline and Film Corporation
In Canada, Hughes Owens Co., Ltd., Montreal

LOOK FOR IT!

Got A Printmaking Problem?
Call your local Ozalid representative. His expert advice is yours for the asking—whether or not you now own or plan to buy Ozalid equipment.

For more details circle **NED-145 D7** on enclosed inquiry slip

Ask the Sta-Warm Service Engineer to help you solve your compound melting problems.

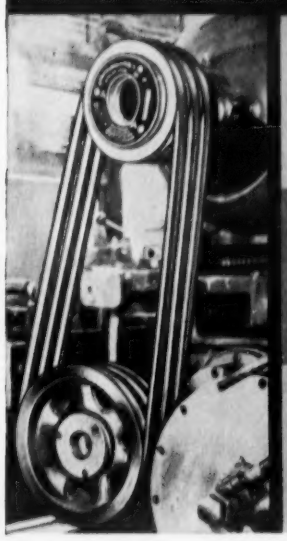
STA-WARM ELECTRIC CO.
130 N. Chestnut St. • Ravenna, Ohio

Sta-Warm

ENGINEERED EQUIPMENT for melting and dispensing heated compounds

▲ For more details circle NED-146 D7 on enclosed inquiry slip ▲

In a matter of minutes



RELEASE

ADJUST

LOCK

Quick, stepless speed variation is just this simple with American Adjustable-Diameter Sheaves, even after long periods of operation! And this is but one reason for the popularity of American Adjustable-Speed Drives. You'll also find, for example:

- First-cost is lower than other forms of variable-speed transmission.
- Less space is required than with enclosed variable-speed transmission.
- Eliminates need for large stocks of fixed-pitch sheaves to meet varying machine-speed requirements.
- Wide-range "Q", "R", and "W" section adjustable sheaves and belts offer even greater economy, transmit more power with one belt, will vary machine speeds as much as 2:1.

If variable machine speeds will increase your operating efficiency and raise your profit, you should be using American Adjustable-Speed Drives.

Stocked by distributors, almost everywhere.

a product of

The American Pulley Company
POWER-TRANSMISSION DIVISION
4294 Wissahickon Avenue • Philadelphia 29, Pa.

▲ For more details circle NED-147 D7 on enclosed inquiry slip ▲

AUTOMATIC PARTS FEEDER handles up to 20,000 parts per hour

Electronically controlled oriented parts flow, combined with large capacity parts storage is provided by Model 329-PFO automatic parts feeder. Unit will handle variety of parts in sizes up to 2 in. diameter and 8 in. long, or flat parts up to 7 in. diameter. Automatically-regulated feed speeds range up to 20,000 oriented parts per hour. Standard bin has 8½-cu ft capacity, although bins up to 30 cu ft or larger are available. Made by **Arlin Products, Inc.**, 13543 Auburn Ave., Detroit 23, Mich.

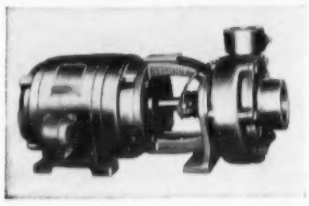
▲ For more details circle NED-148 D7 on enclosed inquiry slip ▲

SHORT POWER LIFT TRUCK usable in narrow aisles, elevators

Because it is only 48 in. long, Docker fork lift truck is readily maneuvered in narrow aisles, and in and out of elevators and trucks. Capacity is 1500 lb. Batteries have ample capacity for full 8-hr shift without recharge. Turning radius is 49½ in. Lifting height is 135 in. with an 83-in. mast or 105 in. with a 68-in. mast. Travel speed is 5 mph. Hydraulic mono-lift or duo-lift mechanisms are available. Operator platform is low enough to permit safe entry in 7-ft doorway. Made by **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

▲ For more details circle NED-149 D7 on enclosed inquiry slip ▲

CENTRIFUGAL PUMPS deliver up to 1200 gpm



Compact line of Motor-Mount centrifugal pumps is designed for use in various industries, as well as integral parts of several types of machinery. Three pumping units deliver up to 1200 gpm with heads up to 220 ft. Featured are one-piece shaft, stainless steel shaft sleeve, enclosed type nonoverloading impeller and choice of stuffing box or mechanical shaft seal. Made by **Deming Co.**, Dept. NE, Salem, O.

▲ For more details circle NED-150 D7 on enclosed inquiry slip ▲

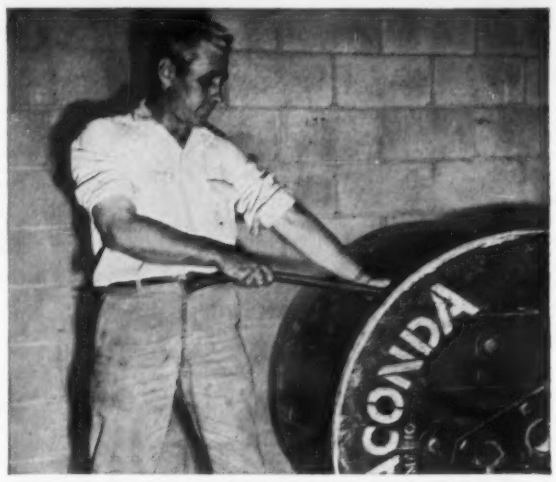
two-speed action for fast approach

Team up a GREENLEE No. 798-AC Portable Hydraulic Power Pump with your hydraulic pipe and conduit benders . . . or other hydraulic equipment such as rams, jacks, presses . . . and see how much faster your jobs go! The *exclusive* GREENLEE feature of *two-speed action* . . . for fast approach and automatic change-over to lower speed, *high-pressure* drive, means big timesavings for you. This compact, easily portable electric motor-driven pump operates a hydraulic pipe bender or other hydraulic rams *three to five times faster* than a hand pump. Write for further details on how the GREENLEE Pump can do a better, faster job to quickly pay for itself.

GREENLEE

GREENLEE TOOL CO., 1944 Herbert Ave., ROCKFORD, ILLINOIS

▲ For more details circle NED-151 D7 on enclosed inquiry slip ▲



ALL-PURPOSE DURASHEATH CUTS COST

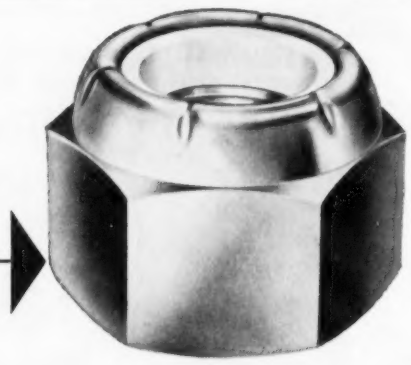
Anaconda's neoprene-jacketed Durasheath* cable cuts installation costs because it can be installed in ducts, buried, aerially or any combination of these *in one run—with minimum splicing.* It reduces maintenance and replacement costs because its rugged jacket resists abrasion, moisture, corrosive chemicals and oils that shorten ordinary cable life. Available in all sizes, single and multiple conductor, copper or aluminum, 600 to 15,000 volts. For full information, write: Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y. 57359

ANACONDA®

*Reg. U.S. Pat. Off.

▲ For more details circle NED-152 D7 on enclosed inquiry slip ▲

what's special about this NUT?



You can stop it at any position on the threaded length of the bolt . . . or wrench it tight against the work where it protects bolt threads against corrosion and prevents liquid leakage. It stays in exact position in spite of heavy vibration and shock loads. Yet, it wrenches off as easily as it went on. You can remove it and re-use it again and again. The elastic red locking collar does not gall threads or remove plating.

Over 25 years of actual field service on everything from locomotives to roller skates has tested and proved the locking principle of Elastic Stop® nuts. Available from a watchmaker's 0-80 all the way to 4" in materials that include stainless steel, brass, aluminum and other alloys. Try Elastic Stop nuts on trouble spots to protect your product with "fastener insurance." We'll supply free test samples.

ESNA

ELASTIC STOP NUT CORPORATION OF AMERICA
Dept. N4-476, 2330 Vauxhall Road, Union, N. J.

▲ For more details circle NED-153 D7 on enclosed inquiry slip ▲

New galvanized rollers

Corrosion a problem? Choose Rapistan Rapid-Roller conveyor with galvanized rollers, frame and plated bearings. Capacity up to 1,500 lbs. Also available with steel or aluminum rollers. For complete details on this versatile, low cost gravity conveyor, write today for literature on the 1.75" roller series.

Another good idea from Rapistan

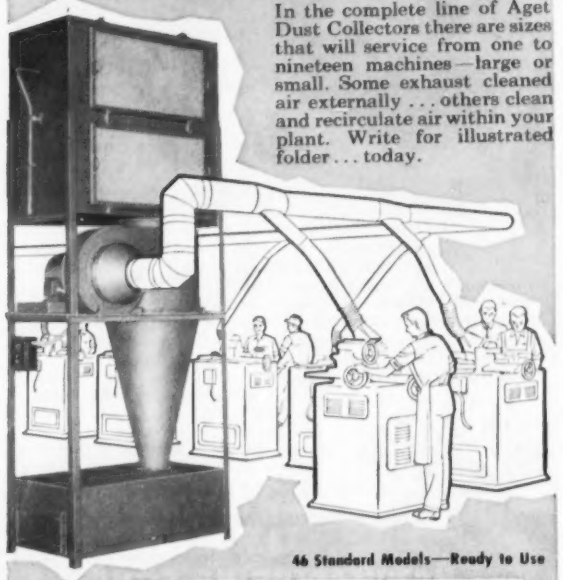
Rapistan

The RAPIDS-STANDARD CO., Inc.
91 Rapistan Bldg.
Grand Rapids 2, Mich.

▲ For more details circle NED-154 D7 on enclosed inquiry slip ▲

just ONE DUSTKOP STOPS DUST
heavy duty unit services up to 19 MACHINES

In the complete line of Aget Dust Collectors there are sizes that will service from one to nineteen machines—large or small. Some exhaust cleaned air externally . . . others clean and recirculate air within your plant. Write for illustrated folder . . . today.



46 Standard Models—Ready to Use

AGET manufacturing company
1396 Church Street • Adrian, Michigan

For more details circle NED-155 D7 on enclosed inquiry slip

How to "BRAINSTORM" Design Improvements that really sell machine buyers

Warner Electric Motion Control makes "Stand-Pat" competition obsolete

"Brainstorming" is paying off in design improvements that mean more sales for leading machine builders . . . and the use of Warner Electric Brakes and Clutches is a good reason why. Top designers and engineers use the Warner system because they know that its versatility . . . speed . . . precision and simplicity are provable user benefits that increase sales. "Brainstorm" Warner Electric Brakes and Clutches into your machine designs . . . and leave "stand-pat" competition far behind. Ask for Bulletin 6212 for the full story.

WARNER

Beat competition with
ELECTRIC BRAKES AND CLUTCHES
Warner Electric Brake & Clutch Co., Beloit, Wis.

For more details circle NED-156 D7 on enclosed inquiry slip

NEW ACE BULLETIN

LUCITE* & PLEXIGLAS†
RODS, TUBES & SHAPES
(in stock for immediate delivery)

FASTEST WAY TO CHECK YOUR NEEDS

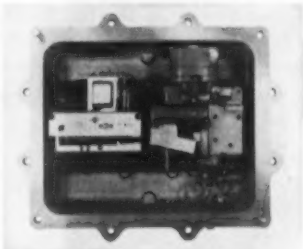
Send today for new illustrated Ace Bulletin.
Shows listings of all available sizes, tolerances, and tables of physical properties.

* Reg'd T.M. of duPont
† Reg'd T.M. of Rohm & Haas

ACE PLASTIC COMPANY
Extrusion Molders and Fabricators
91-28 VAN WYCK EXPRESSWAY, JAMAICA 35, N. Y.

For more details circle NED-157 D7 on enclosed inquiry slip

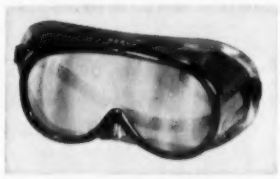
LIQUID LEVEL CONTROLLER
explosionproof for hazardous use



Designed to utilize the advantages of electronics and pneumatics, the Pneutronic level controller will control level of water, acids, alkalies, oils and aqueous solutions. Controller is explosionproof and is intended for use in Class I, Group C and D, and Class II, Group E, F and G hazardous locations. It is capacitance-actuated and will convert the smallest change in level into a proportional air output. Model 111 produces an increase in air output, while model 112 produces a decrease in air output, with an increase in measured level. Installed with special probes, controller can be used with granular solids. Made by **Robertshaw-Fulton Controls Co.,** Fielden Instrument Div., 2902 N. Fourth St., Philadelphia 33, Pa.

For more details circle NED-158 D7 on enclosed inquiry slip

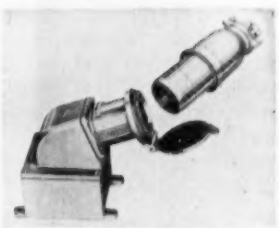
FLEXIBLE PLASTIC GOGGLES
fit snugly over personal glasses



Light in weight and durable, Cesco No. 565 flexible safety goggles are molded from soft vinyl plastic. They are contoured to fit snugly and can be worn over personal glasses. Wide window lenses are curved to allow full vision. Small perforations, angled away from the eyes, provide ventilation. Goggles are offered in clear or green plastic lens styles. Made by **Chicago Eye Shield Co.,** 2335 W. Warren Blvd., Chicago 12, Ill.

For more details circle NED-159 D7 on enclosed inquiry slip

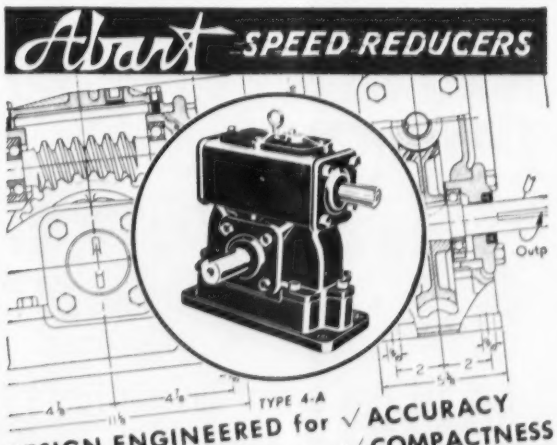
CIRCUIT-BREAKING DEVICES
receptacles, plugs and connectors



Safe even with a 50-per cent overload, Saf-T-Arc circuit-breaking receptacles, plugs and connectors have deep insulating chambers which confine and snuff out arcing and flashover. Two grounding arrangements are available for varying service conditions. All devices are polarized to fit only those with the same electrical characteristics. Field conversion from weathertight flap cover to waterproof screw cap assemblies is possible. Units are made with cast aluminum alloy housings and enclosures in 30, 60, 100 and 200-amp lines for 600 v ac or 250 v ac-dc. Made by **Russell & Stoll Co.,** Dept. 15, 125 Barclay St., New York 7, N.Y.

For more details circle NED-160 D7 on enclosed inquiry slip

Abart SPEED REDUCERS



DESIGN ENGINEERED for
✓ ACCURACY
✓ COMPACTNESS
✓ EFFICIENCY
✓ & Trouble-Free SERVICE

Years of specialized experience give ABART engineers the know-how to produce a wide range of speed reducers to meet your exact requirements. Over 75 models—spur, worm and combination—ratings from fractional to 168 hp.—ratios to 10,000 to 1.

Request handy pocket-size catalog today.

ABART GEAR and MACHINE CO.
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS
Also Mfrs. of Gears

For more details circle NED-161 D7 on enclosed inquiry slip

A Stockroom You Can Build Yourself!

SECTIONAL STACKBINS® give you the greatest flexibility and ease of installation ever devised for parts, tools, materials storage containers. You can set them up in minutes without tools! By combining bin sizes and number and size of openings, you get a storage system tailored to fit your particular needs. SECTIONAL STACKBINS give you maximum storage utility in minimum space. Available in 6 interstacking sizes.

For full information and prices, WRITE TODAY!

STACKBIN CORPORATION
1081 Main Street, Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Ottawa

STACKBIN® SYSTEM
"Stacked and Still Accessible"

For more details circle NED-162 D7 on enclosed inquiry slip

You Name it
uni/RAP
has it

The most versatile and economical steam trap on the market. Request Bulletin 800D.

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, N. C.
Baltimore—Camden, N. J.—Chicago—Cleveland—Los Angeles—New York—Providence—Montreal—Toronto

For more details circle NED-163 D7 on enclosed inquiry slip

WONDER TOOL!

BOSTITCH T5 Tacker cuts costs and makes many jobs easier

- Insulation
- Ceiling tile
- Metal lath
- Cornerite
- Screening
- Paneling
- Five staple lengths
- An easy squeeze triggers powerful driving action
- Leaves other hand free to steady the work

Look up "Bostitch" in U.S. or Canadian phone book, or write 684 Mechanic St., Westerly, R. I.

Fasten it better and faster with
BOSTITCH®
STAPLERS AND STAPLES

For more details circle NED-164 D7 on enclosed inquiry slip

NON DESTRUCTIVE MICRO-HARDNESS TESTER AND METALLURGICAL MICROSCOPE BY SHEFFIELD

This instrument determines hardness of precision-ground or lapped parts, fine wires, very thin sheet stock, cutting tool edges, ball bearing components as well as the more commonly tested parts.

Non-destructive because the indenting load ranges only from 25 to 1000 grams and the disturbance of the surface material is less than .000010". The spot to be indented can be located within .0002".

As a metallurgical microscope, magnifications of 200X and 400X are provided, with the option of using a camera for photomicrographs.

Write for Data Sheet to THE SHEFFIELD CORPORATION Dayton 1, Ohio, U.S.A., Dept. 13

7702

the SHEFFIELD corporation
manufacture and measurement for mankind

For more details circle NED-166 D7 on enclosed inquiry slip

Deburrs 1520

1" TUBE ENDS PER HR. on PINES END FINISHING MACHINE

Here's another outstanding example of how the Pines No. 600 End-Finishing Machine is setting records for production speed and efficiency. Today, at Configured Tube Products Company, Bellwood, Illinois, the Pines Machine (shown at right) performs inside and outside deburring on 1" steel tubing at net production rates of 1520 tube ends per hour. Such high-speed production is made possible by the exclusive design of the Pines Machine which enables the operator to clamp and feed work to the rotating cutters in one pass, so that one hand is always free for rapid stock handling.

Exclusive Features Speed Work

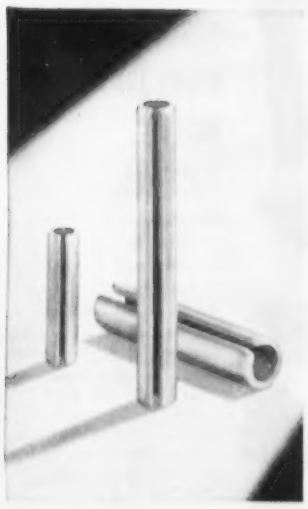
Still other outstanding Pines features such as quick, interchangeable tool holders, chuck inserts, 8-speed sheave (760 to 3920 rpm), sturdy spindle, and grease-sealed precision bearings assure fast, accurate work. The Pines No. 600 handles chamfering, pointing, facing, and reaming operations, as well as deburring, on stock diameters up to 2". Maximum feed stroke is 1-1/4". Automatic air-operated units for higher production work, and larger sizes up to 5" capacity are also available.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery 641 WALNUT • AURORA, ILLINOIS
PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

FREE BULLETIN Write for facts on how these machines cut production costs.

For more details circle NED-167 D7 on enclosed inquiry slip

SEL-LOK spring pins eliminate tapping, peening, milling



SEL-LOK spring pins are installed in plain drilled holes in one simple driving operation. They lock by spring action. Use them as axles, keys, hinge pins, cotter pins, pivot or stop pins. A SEL-LOK stays put, once you've installed it. It resists vibration and shock. It can be removed easily with a drift pin or punch, and reused again and again. These versatile pins are stocked by your authorized industrial distributor in sizes ranging from 1/16 by 3/16 to 1/2 by 5 in., in heat treated alloy or corrosion resistant steel. Write us for Bulletin 2014 and samples. Sel-Lok Spring Pin Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
SEL-LOK® SPRING PIN DIVISION SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-168 D7 on enclosed inquiry slip

ADDRESSING MASTERS
self-adhere to ledger, record cards

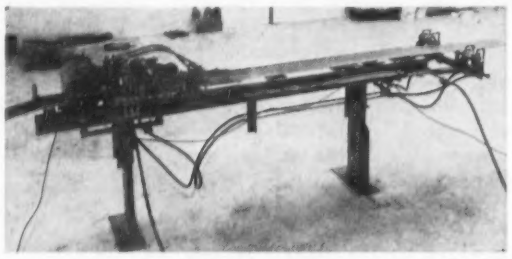
Paper Press-On Master Patches, typed with name and address or other repetitive data in a typewriter, have pressure-sensitive backs for attachment to any ledger

or record cards. When so attached, the typed data can be reprinted 50 to 100 times over a period of years. Record card is thus able to print its own name and address on statements, direct mail pieces, etc. Prints are made in desk size model 60 Master Addresser. Hinged paper flap covers the address area to prevent soiling of hands. Made by **Master Addresser Co.,** 6500E W. Lake St., Minneapolis 26, Minn.

For more details circle NED-169 D7 on enclosed inquiry slip

COILED STOCK FEEDER
automatic unit handles any width

Coiled stock of any width or thickness can be fed automatically by this feeder which operates on small amount of compressed air. Feed mechanism is



mounted on table which can be raised or lowered to new die levels. Spacing bar enables carriage to feed stock in increments of several inches to any number of feet. Machine advances and reverses itself. Action of carriage actuates blanking press. Feeder can be used with any coil and straightener, and with any press, without alteration. Made by **Pollasky Engineering Co.,** Dept. 10A, 3802 N. 38th St., Milwaukee 16, Wis.

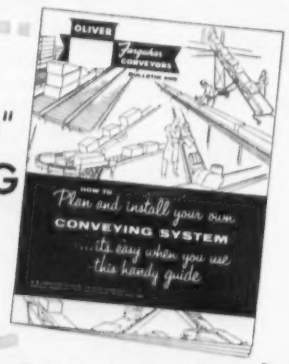
For more details circle NED-170 D7 on enclosed inquiry slip

Fluorescent Lighting Guidance

Sylvania Electric Products Inc.—Available to commercial and industrial users of lighting equipment, 24-page illustrated "Fluorescent Lighting Guide Book" discusses general advantages of fluorescent lighting, data on various types of lamps, and descriptions of starters, lampholders, ballasts and special lamps. Charts and sketches give selection and application guidance.

For more details circle NED-171 D7 on enclosed inquiry slip

Now "install your own" CONVEYING SYSTEM...



but get this useful bulletin first!

Here's a "do-it-yourself" workbook that answers your questions about building money-saving power belt and gravity conveying systems.

Bulletin 500 gives details on standard Farquhar Conveyors and shows you how to use a "Check List" to get down in writing all the information you must have to properly plan your own systems. Then it takes these "Check List" facts and converts them into step-by-step procedures for selecting and installing the conveyors. The result is a simplified method that makes it easy to build a basic conveying system whether it involves two or twenty units.

Write, wire or phone for your free copy of Bulletin 500 today.

OLIVER Farquhar CONVEYORS
A. B. FARQUHAR DIVISION
THE OLIVER CORPORATION
Conveyor Dept. A-04, York, Penna.
Factory Branch: 618 W. Elm St. Chicago, Ill.
POWER BELT AND GRAVITY CONVEYORS
Also makers of Farquhar Hydraulic Presses and Special Machinery

For more details circle NED-172 D7 on enclosed inquiry slip

Easy to Get— the RIGHT Data the RIGHT Ideas about YOUR MINIATURE LIGHTING NEEDS

Here's the *scientific* way to approach Miniature Lighting. Just fill in basic questions on Drake's new PROJECT DATA SHEET, and mail it back. Our expert engineers will scientifically analyze your data . . from all the thousands of possible lighting arrangements, will recommend the *one best* for top results, greatest economy, in *your* specific case. Drake's decades of specialized Miniature Lighting experience, and complete line of regular and special units, are thus at your disposal. *This service is free—no obligation.*

DRAKE Dept. N SEND FOR YOUR COPY!

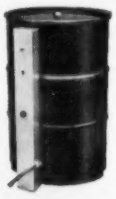
DRAKE MANUFACTURING COMPANY
1711 WEST HUBBARD ST. • CHICAGO 22, ILL.
SOCKET & JEWEL LIGHT ASSEMBLIES

For more details circle NED-173 D7 on enclosed inquiry slip

Aircon VAPOR DEGREASERS

ANY SIZE . . .
Standard or Custom

Aircon Vapor Degreasing Systems are available in a complete line, ranging in size, from the smaller bench and barrel-type units to the larger, permanent, high capacity degreasers.



Aircon Degreasers are:
- GAS, ELECTRIC OR STEAM HEATED
- COMPLETE UNITS WITH ALL SAFETY EQUIPMENT

NO EXTRAS TO BUY!

Write today for full information

WE ARE DESIGNERS AND ENGINEERS OF SPECIAL DEGREASING EQUIPMENT. CONSULT US ON YOUR DEGREASING PROBLEMS.

Armstrong & White
CHESWICK, PENNSYLVANIA

For more details circle NED-174 D7 on enclosed inquiry slip

UNION Roller Coaters are designed for *ALL* coating jobs!

Union Roller Coaters efficiently apply paint, adhesives, lacquer, glue, compounds—*any* fluid substance—to metal, veneer, plywood, fabric, rubber, paper, plastic—to *any* flat work.

Units feature heavy steel frames . . . easily regulated, precision control of fluid substances . . . self-aligning sealed ball bearings . . . drip-proof reservoirs.

Standard drive, 75 fpm . . . variable speed drive, geared-head motor and a wide assortment of other optional equipment are available. *Write for complete information.*

Model No. 5 shown—4 other models available.

THE UNION TOOL CORPORATION
WARSAW, INDIANA
318 North Market Street

For more details circle NED-175 D7 on enclosed inquiry slip

Schrader® Air Cylinders

Wherever you require straight-line force, you'll find there's a compact Schrader Cylinder that will deliver it economically . . . dependably. You can eliminate manual operations in thousands of applications—and at the same time speed production and improve safety.

If you design equipment, consider Schrader Air Cylinders' superlative ability to deliver controlled power exactly where and when you need it.

There's a cylinder to fit every application. Push, pull, reciprocating, and clamping designs . . . with or without cushioned stroke . . . and in a wide range of sizes, stroke lengths, and mountings. Power, speed and timing are easily adjustable. Write for free Schrader catalog.

A. SCHRADER'S SON
Division of SCOVILL
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-176 D7 on enclosed inquiry slip

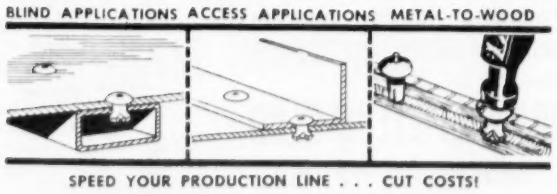
LOOK HOW EASY... AND FAST RIVETING CAN BE WHEN YOU USE SOUTHCO DRIVE RIVETS!

Rivet and Mfg. Patented.

a hammer is the only tool
...drive like nails
...automatic "pull-up" action

Fastest for:

BLIND APPLICATIONS ACCESS APPLICATIONS METAL-TO-WOOD

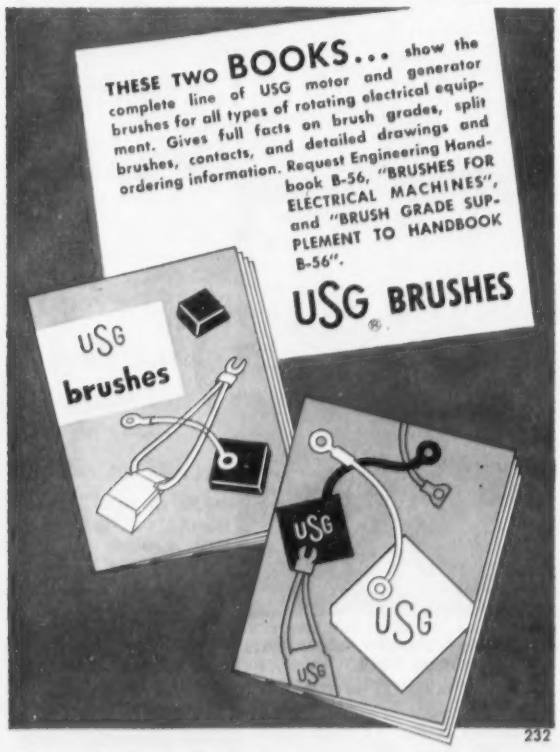


SPEED YOUR PRODUCTION LINE . . . CUT COSTS!

For complete data, write Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS LION
©1956

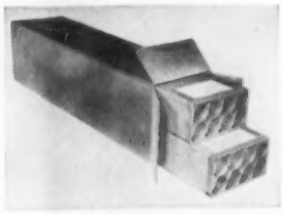
For more details circle NED-177 D7 on enclosed inquiry slip



THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

For more details circle NED-178 D7 on enclosed inquiry slip

BLUEPRINT FILE
attaches under drafting board



Blueprints, tracings and drawings can be conveniently filed under the drafting board in the model JR36 Multiroll Jr. file, offered in kits of two units. Each contains eight individual 1¾-in. ID, 36-in. long file tubes. Rear ends are closed. Index form for contents is furnished. Made by **Roll & File Systems, Inc.**, Dept. NED, Box 3863, Detroit 5, Mich.

For more details circle NED-179 D7 on enclosed inquiry slip

COATING THICKNESS TESTER
portable nondestructive model

Laboratory and production nondestructive coating thickness tests can be made with the model D-2 Dermitron portable tester. Direct readings of virtually any coating on any base can be made. These include metal coatings (such as plating) on metal base; nonmetallic coatings (paint, anodizing, porcelain) on metal base; and metal films on nonmetallic base (plastics, ceramics). Four measuring probes for extra wide thickness ranges from thin to thick deposits are supplied. Only a ⅛-in. circle area is required for measurement. Use can be for sorting and matching of metals and alloys. Made by **Unit Process Assemblies, Inc.**, Dept. D, 61 E. Fourth St., New York 3, N. Y.

For more details circle NED-180 D7 on enclosed inquiry slip

TURBINE VENTILATOR
noiseless and vibrationless

Ground deep-groove ball bearing featured by the Centriflo turbine ventilator is mounted in self-aligning shielded housing and has basic load rating of 300 lb. This is 15 times greater than actual load on bearing. It is shielded from dust and moisture and is packed with life-time grease. Suspension of balanced aluminum rotor and bearings in rubber eliminates noise and vibration. Made by **Greenheck Fan & Ventilator Corp.**, Dept. 17, Schofield, Wis.

For more details circle NED-181 D7 on enclosed inquiry slip

"Live" ROLLER TOP ON Weld-Bilt LIFT TABLE

SPEEDS SHEET METAL PRODUCTION

Load this Weld-Bilt Hydraulic Lift Table with two or four stacks of sheet steel, move it up to your press or brake. Then as your operator uses one stack, he just turns the hand crank, and the next stack moves to machine position — and you load another stack into position. Platform can be raised a fraction-of-an-inch at a time so that each sheet can be slid onto the press — no manual lifting. Lift is controlled by two-way foot pedal.

This Weld-Bilt "Live" Roller Lift Table is available in varying sizes and capacities to suit your needs. Just write, outlining your specific need. We'll be glad to suggest a profitable Weld-Bilt engineered adaptation that will save you production time and labor.

"Weld-Bilt" PRODUCTS

Weld-Bilt Vertical Floor to Floor Transportation Systems — Lift Trucks — Portable Elevators — Automatic Elevators.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 WATER STREET, WEST BEND, WISCONSIN

For more details circle NED-182 D7 on enclosed inquiry slip

Accurate, low-cost temperature control for

Fielden Series 97
Electronic Temperature Controller

Every process, no matter how simple, can now afford the improved temperature control provided by this highly sensitive electronic instrument.

- Actuates control device with ± 0.2° F. change.
- For ranges between −328°F and +1400°F.
- Can be used with electrical contactors, motor starters, and electric motorized, solenoid, or pilot-operated electric valves.
- Shows temperature above or below control point.
- Complete line of nickel and platinum resistance temperature detectors.

Robertshaw-Fulton CONTROLS COMPANY
FIELDEN INSTRUMENT DIVISION
Dept. F 2920 N. 4th St., Philadelphia 33, Pa.

Send for Free Bulletin Today

For more details circle NED-183 D7 on enclosed inquiry slip

Battle of the Bottles

—Another victory for Goodyear Industrial Tires

Here you see a fork lift carrying 2500 pounds of bottled soft drink from filling machinery to delivery truck.

There are 20 such lifts loading at this plant operating in triple shifts five days a week. The hauls are short and fast, with plenty of stops and turns.

This would be a rugged routine for ordinary tires, but the tires used here are Goodyear Industrials—specified for the job. Their All-Service Xtra Cushion tread is especially designed to prevent spinning and slippage, provide extra traction and stability, absorb vibration.

Result: the management reports that Goodyear Industrials are setting performance and durability records never before achieved on this difficult assignment. One reason for their success is that here at Goodyear we build the tire for the *job*, as well as for the truck. If you have a problem in industrial tires, why not talk to your Goodyear dealer? Or write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Look for this sign; there's a Goodyear dealer near you.

Use the Right Tire for the Job — Buy and Specify

GOODYEAR INDUSTRIAL TIRES

All-Service, Xtra Cushion—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-184 D7 on enclosed inquiry slip

Southern STOVE BOLTS

One of a Large Family of Fine Fasteners*

Two good reasons why Southern Stove Bolts keep your assembly line moving *fast:*

- Southern makes every fastener to the most rigid specifications—headed, slotted (milled slots) and threaded for speedy assembly.
- The Stove Bolts you need for quality production are ready now, in our stock of over one billion fasteners. Overnight shipment from warehouse nearest you.

Stove Bolts in slotted (milled slots) steel with flat, round or truss head. Square nuts unassembled. ⅛" to ⅝" diameters, ⅝" to 6" long. In bulk or "EZ to C"© packages.

*Also: *Wood Screws • Machine Screws & Nuts • Tapping Screws • Dowel Screws • Drive Screws • Carriage Bolts • Hanger Bolts*

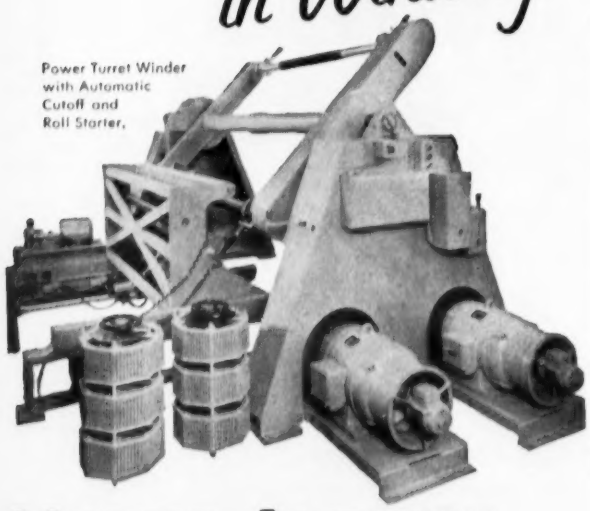
Write for free samples, *Stock List* and the *C-3 Catalog*. Box 1360-NED, Statesville, N. C.

Southern SCREW COMPANY STATESVILLE • NORTH CAROLINA

Warehouses: New York Chicago Dallas Los Angeles

▲ For more details circle NED-185 D7 on enclosed inquiry slip ▲

Up to 25% more production through *Automation in Winding*



Power Turret Winder with Automatic Cutoff and Roll Starter.

HOBBS-ALQUIST Power Operated 2-Shaft Turret Winder

This ultra modern winding unit designed for use back of an extruder laminator is a perfect example of automation in winding. The unit will wind poly coated cellophanes, krafts, plain paper, etc. Rolls up to 1500 lbs. can be accommodated.

Synchronized with the previous process, this automatic winder completely eliminates shut down time formerly needed to change rolls. An automatic cut-off and roll starting device makes the process continuous.

In a single day you can expect and get up to 25% more production from the Hobbs-Alquist power operated 2-shaft turret winder.

HOBBS CAN AUTOMATE *YOUR* WINDING

Successful, profitable winding begins with engineering and Hobbs is high among the leaders in the designing and building of winders and winding stands that do the job automatically.

Ask for the illustrated brochure "Engineered Winding"

HOBBS MANUFACTURING CO.
41-D Salisbury St., Worcester 5, Mass.

Branch Offices and Representatives in Irvington, N. J., Chicago, Cleveland, Greenville, S. C. and Toronto, Can.

Winder • Hand & Power Shears • Die Presses • Slitters • Corner Cutters

▲ For more details circle NED-186 D7 on enclosed inquiry slip ▲

TROUGHING CONVEYOR
for liquid, parts, bulk material

Minimum of maintenance and wear is assured by hingeless design of this powered metal troughing conveyor. Made in sizes to suit any need, machine will handle liquids, chips, scrap, stampings, hot and cold forgings, castings, sand, grain, chemicals, powder and many other materials. Stainless steel buckets can be used for food, pharmaceuticals and corrosive materials. Portable and stationary models are offered. Made by **R. T. Sheehan Co.**, 8070 N. Territorial Rd., Plymouth, Mich.

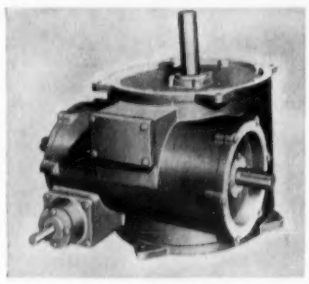
▲ For more details circle NED-187 D7 on enclosed inquiry slip ▲

HANDCLEANER DISPENSER
improved for longer life

Mechanical service life of this improved GoJo handcleaner dispenser is reportedly doubled by redesigned ratchet mechanism. Streamlined top clamp facilitates replacement of throwaway can. Deodorant formulation of GoJo cream type handcleaner gives it a pleasing, refreshing scent. Cleaner can be used with or without water to remove grease, grime, paint, ink, tar and almost any stubborn soil. It also affords soothing, safe protection of the skin against dermatitis. Made by **Gojer, Inc.**, Dept. N, Box 991, Akron, O.

▲ For more details circle NED-188 D7 on enclosed inquiry slip ▲

INDEXING UNIT
various inputs, reductions offered



Precision positioning between automatic production stations or a simplified means of timing production drives are provided by this cam-operated indexing unit. Input is either ¾ or 3 hp, depending on work load. Worm reduction can be 10 to 1, 20 to 1 or 40 to 1. Increments of 8, 12, 16 or 20 indexes can be obtained during one complete table revolution. Rotating shafts of the 27 x 26 x 21¾-in. unit are mounted on tapered roller bearings. Made by **Standard Tool & Mfg. Co.**, 237 Laurell Ave., Kearny, N. J.

▲ For more details circle NED-189 D7 on enclosed inquiry slip ▲

ELECTRONIC BALANCER

MODEL SU-6 ELECTRONIC BALANCER HANDLES ANY ROTATING BODY from 4 ounces to 100 pounds. Diameters to 20 inches.

Requiring minimum space, minimum fixturization, and featuring extreme simplicity of operation, the SU-6 Dynamic Balancer is completely electronic in both detection and location of unbalance. It provides direct, precise reading of magnitude and position of unbalance. For manufacturers and shops seeking a precision machine with great range and versatility, the SU-6 offers the very finest characteristics at the lowest price available!

WRITE FOR COMPLETE INFORMATION.

M-B MICRO BALANCING, INC.
Herricks Road, Garden City Park, N. Y.
Most Famous Name In Dynamic Balancers

▲ For more details circle NED-190 D7 on enclosed inquiry slip ▲

PORT-A-BLAST

PORTABLE
SAND BLAST GUN

A COMPLETE SAND BLAST UNIT *only* $27.50
(Including one spare jet and two spare nozzles)

Operates on 60 to 150 P.S.I. Handles all types of abrasives

A REAL PERFORMER FOR THE SHOP FOR THE LAB

The "Port-a-Blast" is a complete sand blast unit. Simply fill the container with the abrasive material, connect it to your air line and it is ready to go to work.

It is ideal for sand blasting small parts, for removing rust, scale, paint and dirt from those hard to get at places; for texturing and etching metals, glass, ceramics, plastics, woods, etc.

It has solved many complicated cleaning problems in all types of manufacturing plants, and laboratories throughout the United States and Canada.

ORDER ONE TODAY! PAYS FOR ITSELF QUICKLY!

LINDBERG PRODUCTS COMPANY
P. O. Box 908 D Lakeport, Calif.

▲ For more details circle NED-191 D7 on enclosed inquiry slip ▲

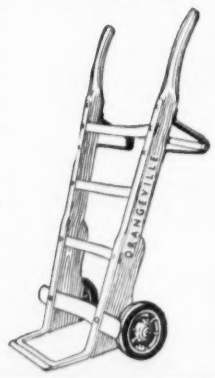
FLOOR TRUCKS

"KEEP LOADS ALIVE"

STANDARD SIZES & TYPES
SPECIAL DESIGNS
VARIOUS TYPE WHEELS:
IRON - RUBBER - PNEUMATIC

Write for catalog

ORANGEVILLE MFG. CO.
Orangeville 12, Pa.
"Since 1879"



FLOOR TRUCKS ORANGEVILLE

▲ For more details circle NED-192 D7 on enclosed inquiry slip ▲

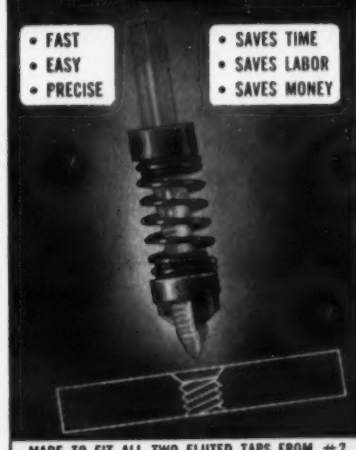
ELIMINATE a Complete Operation!

BURR-BIT PATENT PENDING

DE-BURRS TAPPED HOLE WHILE TAPPING

- FAST
- EASY
- PRECISE

- SAVES TIME
- SAVES LABOR
- SAVES MONEY



By merely slipping a BURR-BIT on your tap in a matter of seconds, a complete secondary operation is eliminated. Designed to fit all makes of taps.

- ELIMINATE A SPINDLE
- GET A PERFECTLY CLEAN HOLE
- DE-BURR THIN MATERIAL

CAN BE EFFICIENTLY USED ON PRACTICALLY ALL MATERIALS—STEEL, ALUMINUM, PLASTICS, ETC.

Write for full details—Dept. NE-4

MADE TO FIT ALL TWO FLUTED TAPS FROM #2 TO 3/8ths IN ALL PITCHES. AVAILABLE FOR THREE FLUTED TAPS ON SPECIAL ORDER.

BLADES MADE EXTRA LONG TO ENABLE RESHARPENING MANY TIMES.

THE SENSATIONAL BURR-BIT IS A HIGHLY PRECISE PRODUCT MADE OF THE FINEST QUALITY HIGH SPEED STEEL, INDIVIDUALLY INSPECTED.

Dealers Inquiries Invited!

VERNON DEVICES, INC.
481 East 3rd Street, Mt. Vernon, N. Y.

▲ For more details circle NED-193 D7 on enclosed inquiry slip ▲

MONOBLOC ROTARY PUMP

gives you 28 ways to hook up piping

It's easy to fit this new Worthington Rotary Monobloc pump into existing space because you have a choice of many different piping arrangements. Dual suction and discharge opening, reversible pump direction and four flange positions on the motor will help you simplify layouts—saving time and materials. Like all Worthington Monoblocs, the new rotary eliminates alignment problems, is less expensive than separate pump, motor and baseplate. Write for free booklet. Worthington Corporation, Harrison, N. J.

WORTHINGTON

PC.7.12A

For more details circle **NED-194 D7** on enclosed inquiry slip

PORTABLE COMPRESSOR

supplies pressures up to 150 psi.

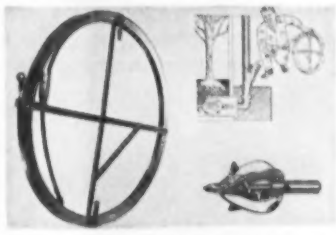
Take compressed air quickly where it's needed with this handy Worthington utility compressor. Every shop should have one for cleaning filters, electrical equipment and inaccessible machinery, spray painting, blowing out clogged lines, power lubrication, tire inflation, and many other every day chores. Available with ½ and ⅓ hp electric motor or gasoline engine. Write for free bulletin describing the complete compressor line. Worthington Corporation, Harrison, New Jersey.

WORTHINGTON

PC.7.12B

For more details circle **NED-195 D7** on enclosed inquiry slip

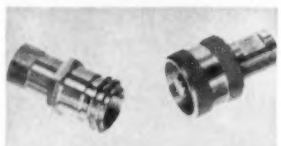
SEWER CLEANING RODS
cutters remove heavy obstructions



Sewer lines from plant or catch basin to street can be cleared of metal chips, lime deposits, roots, grease, rags, glass and other obstructions by flat spring sewer rods. An automatic grip handle enables the operator to force the rod in and out of 2 to 8-in. drains. Oil-tempered steel rods are equipped with handle, roller ball and oval spear cutting point and are carried in a frame holder. Revolving cutters can be attached to the ends of rods. They are offered in ½, ¾, 1, 1¼ and 1½-in. sizes in 50, 75 and 100-ft lengths. Made by **Miller Sewer Rod Co.**, Dept. NED-G, 4642 N. Central Ave., Chicago 30, Ill.

For more details circle **NED-197 D7** on enclosed inquiry slip

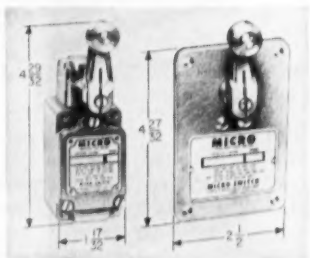
SELF-SEALING COUPLING
for portable LP-cylinder uses



Series 5104 LP-gas self-sealing coupling is specifically designed for heavy duty service with portable cylinders for industrial lift trucks, LP-gas and various industrial installations. Couplings can be disconnected or connected by hand even when lines are pressurized. Union nut is spring-loaded to prevent loosening through vibration, and seating surfaces fully seal before valves open. Coupling connects with standard P.O.L. connectors. Made by **Aeroquip Corp.**, 303 S. East Ave., Jackson, Mich.

For more details circle **NED-198 D7** on enclosed inquiry slip

LIMIT SWITCHES
redesigned for higher ratings



Forged aluminum alloy roller - arm actuators and higher electrical ratings are improvements incorporated in Micro Switch 1LS1 and 7LS1 two-circuit limit switches. They have high tensile strength and vibration - resistance. Ratings have been increased to 10 amp, 120, 240, 480 v ac. Pilot duty rating is 600 v ac. Switches are sealed, and actuators can be field adjusted through 360 degrees and locked in any position. Head assembly of the 1LS1 can be mounted in any of four directions. Both types can be adjusted to operate in either or both directions. Made by **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle **NED-199 D7** on enclosed inquiry slip

BALANCED ANGLE COMPRESSOR

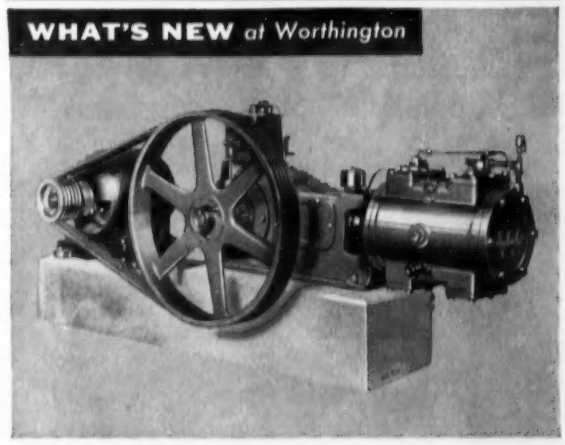
now available in larger—15 to 20 hp—sizes

Now you can get all the advantages of modern design in the larger compressor sizes. Smoother running, a Worthington "balanced angle" compressor needs no special foundation. Its exposed cylinders increase cooling efficiency, save power dollars and give better compressor performance in high ambient temperatures. For low-cost replacement, cylinders are readily removable. Balanced angle compressors are available base or tank mounted or as a bare compressor. Write for free literature. Worthington Corporation, Harrison, New Jersey.

WORTHINGTON

PC.7.12D

For more details circle **NED-200 D7** on enclosed inquiry slip



WATER-COOLED COMPRESSOR

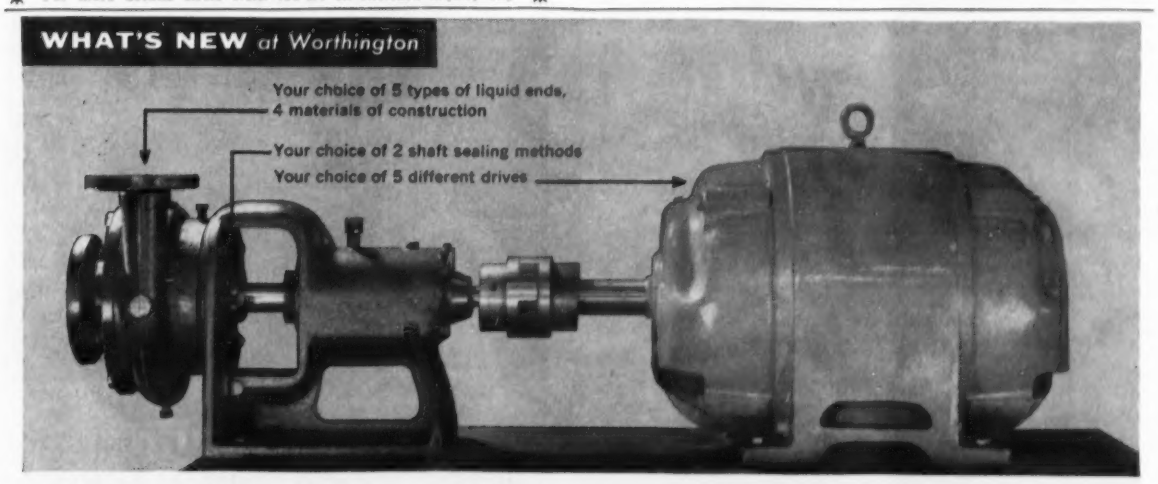
best bet for heavy duty applications

For heavy duty compressor applications, look into the benefits of using Worthington water-cooled units. The work-horse of the line, a type HB compressor, will give you 24-hour-a-day, 7-day-a-week service. For the really big jobs a Worthington water-cooled unit is your best bet. Belt-driven Worthington HB compressors are available in ratings from 50 to 2,000 cfm. Write for free descriptive bulletin. Worthington Corporation, Harrison, New Jersey.

WORTHINGTON

PC.7.12E

For more details circle **NED-201 D7** on enclosed inquiry slip



NOW! 70,480 PUMP COMBINATIONS TO CHOOSE FROM

The standardized line that lets you "custom-build" at no extra cost

Whether you use one pump or many, Worthington's line of Standard End Suction Centrifugal (SESC) pumps give you many advantages. You can choose direct motor drive, monobloc motor, monobloc turbine, direct or belt drive. You also have a choice of materials of construction, types of liquid ends, sealing methods and drives—70,480 combinations in all. Because each is built from standard parts, you get prompt delivery at competitive prices.

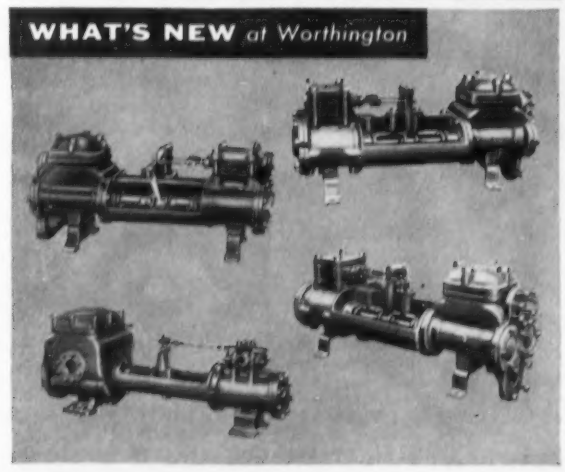
After your SESC pump is installed you benefit from its standardization. Because many, many parts are interchangeable between pump types and sizes, you need as much as 50% less spare parts inventory. Because the entire line is built to the same basic design you cut maintenance, reduce downtime. If you know one SESC pump, you know them all.

Write for free booklet explaining in detail how SESC standardization means real savings to all pump users. Worthington Corporation, Harrison, New Jersey.

WORTHINGTON

PC.7.12F

For more details circle **NED-196 D7** on enclosed inquiry slip



STEAM PUMPS FROM STOCK

Save weeks by selecting from standard types

Order your next steam pump from Worthington and you'll have a big selection of standard pumps available from stock. You'll save time, get a unit that's backed by a large stock of spare parts. To cut maintenance costs all standard pumps have renewable cylinder liners. Pumps shown above are of the valve plate type. Write for free literature. Worthington Corporation, Harrison, New Jersey.

WORTHINGTON

PC.7.12G

For more details circle **NED-202 D7** on enclosed inquiry slip

NEW PDQ

inteRapid GROOVE CHECKING Comparator Gauge offers...

- ★ Precision, range and versatility
- ★ 3 and 2 point checking—3 point for production, 2 point for short runs
- ★ Quick setting adjustment knob sets scale reading from gage blocks, mikes or ring gauge.
- ★ Locking lever locks arms after setting is made
- ★ Retracting lever allows in and out movement of measuring arms while positioning instrument
- ★ Easily read large meter-type face is graduated in .0005"
- ★ Interchangeable tips offer versatility in application

The new P.D.Q. groove checking comparator gauge offers guaranteed Swiss accuracy and workmanship.

Sets come complete with both short and long groove tips, special "flat bottom" tips, button tips, centering arms, spare screws, special socket wrench and screw driver, all in one compact, sturdy case. Units measure internal grooves from 3/8" to 6".

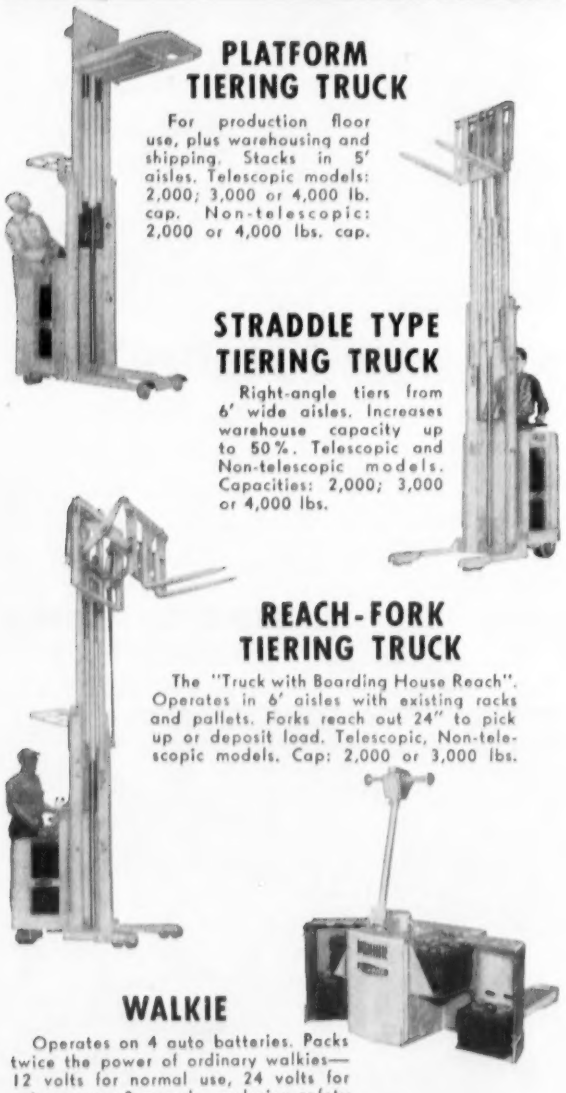
Write for literature covering all the features of the new comparator gauge

Representatives in principal cities

PORTAGE Double-Quick, Inc.
1043 SWEITZER AVENUE • AKRON 11, OHIO

For more details circle NED-203 D7 on enclosed inquiry slip

RAYMOND ELECTRIC TRUCKS



PLATFORM TIERING TRUCK

For production floor use, plus warehousing and shipping. Stacks in 5' aisles. Telescopic models: 2,000; 3,000 or 4,000 lb. cap. Non-telescopic: 2,000 or 4,000 lbs. cap.

STRADDLE TYPE TIERING TRUCK

Right-angle tiers from 6' wide aisles. Increases warehouse capacity up to 50%. Telescopic and Non-telescopic models. Capacities: 2,000; 3,000 or 4,000 lbs.

REACH-FORK TIERING TRUCK

The "Truck with Boarding House Reach". Operates in 6' aisles with existing racks and pallets. Forks reach out 24" to pick up or deposit load. Telescopic, Non-telescopic models. Cap: 2,000 or 3,000 lbs.

WALKIE

Operates on 4 auto batteries. Packs twice the power of ordinary walkies—12 volts for normal use, 24 volts for extra power. 3 speeds, exclusive safety control, 4,000 lb. capacity.

MAIL THIS COUPON

The RAYMOND CORPORATION
4129 Madison St., Greene, N.Y.
Please send Bulletins on RAYMOND Electric Trucks checked below:

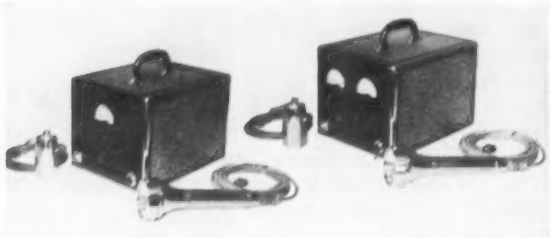
☐ Straddle Type Tiering Truck ☐ Walkie Electric Truck
☐ Reach-Fork Tiering Truck ☐ Platform Tiering Truck

NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-204 D7 on enclosed inquiry slip

PORTABLE VIBRATION ANALYZERS for in-place or troubleshooting uses

Portable instrumentation for troubleshooting as well as in-place balancing of machine tools and plant equipment is provided in two lightweight vibration analyz-

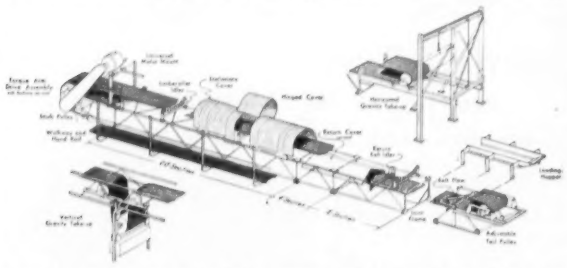


ers. Model 300 is intended for in-place and production balancing, while model 400 has features for analyzing or troubleshooting as well as balancing. Seismically-mounted vibration pick-up maintains sensitivity despite the abuse of industrial usage. Electronic circuitry utilizes inverse feedback to assure amplifier stability. Stroboscopic light contained in flashlight-type case assures results under all light conditions. At maximum sensitivity, both models have 0.001-in. full-scale displacement range. Both operate on 110 v single-phase ac. Model 300 requires 40 w; the 400, 50 w. Made by **International Research & Development Corp.**, Dept. A, 797 Thomas Lane, Columbus, O.

For more details circle NED-205 D7 on enclosed inquiry slip

BELT CONVEYOR SYSTEM assembled from prefabricated units to use any standard belt width

Easily assembled in the field from pre-engineered, prefabricated components, the Ready-Span pipe frame truss belt conveyor system for bulk materials can be



made up to any length required. Each section is made up of four 1½-in. pipe cords connected by ¾-in. pipe diagonals to form a laced frame truss. Idlers, walkways, cover decking, hoods, supports and other accessories clamp to the pipe.

Drive and tail terminals are similar to intermediate sections, and are adaptable to a variety of pulley sizes, motor mounts, wipers, hold-back brakes, takeups and hoppers. Trusses are made in all standard belt widths and 24 and 42 in. depths for spans up to 50 and 100 ft, respectively. Standard troughing idlers can be used. Made by **Joy Mfg. Co.**, Dept. NR-54, Oliver Bldg., Pittsburgh 22, Pa.

For more details circle NED-206 D7 on enclosed inquiry slip

SHELDON CHICAGO U.S.A. Sebastian

New 13" and 15" Precision Geared Head Lathes

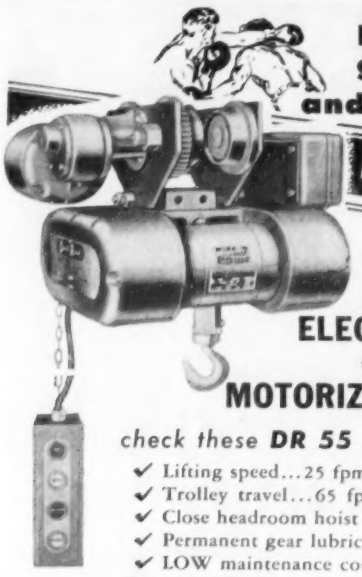
These new, more powerful, more capable lathes will: Work to the closest tool room tolerances ... Stand up under continuous, heavy-duty, production runs ... Available in 5', 6' and 8' bed lengths ... Features hardened bed ways, dial selector for spindle speeds; automatic lubrication of headstock and apron; independent drop lever clutches for power feeds; heavy, modern pedestal and 60 pitch gear box.

Write for catalogs describing the new cost-cutting machine tools designed and built by SHELDON, and, the name of your nearest distributor where you can see and test them in operation.

SHELDON MACHINE CO., Inc.
4215 N. Knox Avenue, Chicago 41, Illinois

For more details circle NED-207 D7 on enclosed inquiry slip

POWER SPEED and STAMINA



DR MODEL 55 with CABLE TYPE ELECTRIC HOIST and MOTORIZED TROLLEY

check these DR 55 features:

- ✔ Lifting speed...25 fpm
- ✔ Trolley travel...65 fpm
- ✔ Close headroom hoist design
- ✔ Permanent gear lubrication
- ✔ LOW maintenance cost

Dependably Rugged

See Your Distributor TODAY...or WRITE for BULLETIN

DR DAVID ROUND HOISTS & CRANES Since 1869

DAVID ROUND & SON, INC.
P. O. BOX 883, CLEVELAND 22, OHIO
HOISTS • WINCHES • CRANES • TROLLEYS • SHEAVES • HOIST CHAIN

For more details circle NED-208 D7 on enclosed inquiry slip

Gary GRATING with the HEXAGONAL CROSS BARS Resistance Welded

FREE SAMPLE
Write for paper weight size sample and catalog N-47

ROCKWELL SPRING & AXLE CO.
Standard Steel Spring Division
4017 EAST SEVENTH AVE., GARY, INDIANA

For more details circle NED-209 D7 on enclosed inquiry slip

NEW, IMPROVED AUTOMATIC PRESS UNLOADING MACHINE

- ROLLS FROM PRESS TO PRESS ... has heavy steel base, is mounted on wheels.
- SELF-CONTAINED UNIT ... just plug into air and electrical outlets.
- EASY TO SET UP ... Swivel base—fits tight spots. Adjusts to varying die heights. No special dies needed.
- UNLOADS SMALL PARTS AT HIGH SPEED ... up to 35 parts per minute.

Its Operation: Similar to overhead Iron Hands used in all U. S. auto plants. Each time ram completes downstroke, the Iron Hand moves in, grips the stamping, lifts it, brings it back, and drops it in a tote box.

Write for complete catalogue

IRON HAND SAHLIN IRON HAND
SAHLIN ENGINEERING CO., INC.
P. O. Box 289, Birmingham, Michigan

For more details circle NED-210 D7 on enclosed inquiry slip

NEW! Geared flexible couplings with finished bores FROM STOCK

No wait for reboring when you select Link-Belt popular-sized finished-bore geared flexible couplings. They're available right off the shelf. Components come disassembled, ready for quick and easy installation. Available from stock in bore sizes to 2¾ inches. Other sizes up to 6 inches. Pick-up your needs at a nearby Link-Belt factory branch store or authorized stock carrying distributor, or write for Folder 2375.

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.

LINK-BELT
GEARED FLEXIBLE COUPLINGS
13,040

For more details circle NED-211 D7 on enclosed inquiry slip

For Every Corrosive Service

JOHN CRANE
FreeFlow GASKETS made of TEFLON*

"John Crane's" FreeFlow construction and chemically inert Teflon are *the* answer for gaskets in corrosive service. This construction assures a flush fitting with the I.D. of the pipe and the inner wall of the Teflon envelope, not possible with the ordinary "wishbone" type gasket. (See drawing). This means elimination of:

1. Flow restriction and turbulence in the line.
2. Danger of rupture at high temperature due to entrapped air between gasket insert and Teflon envelope.

"John Crane" Teflon FreeFlow gaskets are impervious to practically every known chemical or gas and are unaffected by temperatures from −100° to +482°F., depending on the insert material. They are available in all shapes and sizes for a wide variety of applications.

Request full information. Ask for informative booklet, *The Best in Teflon.*

Crane Packing Company, 6411 Oakton St., Morton Grove, Ill., (Chicago Suburb). *In Canada: Crane Packing Co., Ltd., Hamilton, Ont.*

*DuPont trademark

JOHN CRANE CRANE PACKING COMPANY

For more details circle NED-212 D7 on enclosed inquiry slip

Loosens FROZEN PARTS FAST!

Handy
Won't Leak
Shoots 3 Feet

Same formula as famous Kroil that has pleased 14,000 industrial users for 10 years or more.

Loosens stuck together metal parts, bushings, bearings, bolts, screws, pipe, etc., "anything from an embalmer's needle to a bulldozer," one customer said.

"Like an extra employee," said another. "Turned rust into mush, put $50,000 equipment back to work."

You too can get these results.

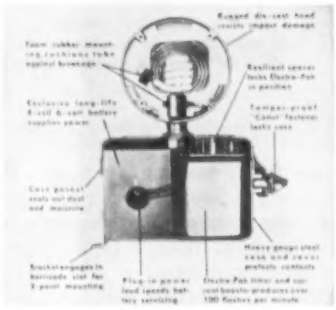
Try Aerokroil at our risk. Send $2 cash, and we'll pay postage.

12-OZ. CAN $2.
F.O.B. NASHVILLE
CASE OF 12 $18.75

KANO LABS. 1074 S. Thompson Lane Nashville 11, Tenn.

For more details circle NED-213 D7 on enclosed inquiry slip

FLASHING SAFETY LIGHT operates 90 days on battery



Eight-cell battery used in this improved Flasher safety light gives continuous 90-day operation without servicing. Vertically-mounted cushioned neon tube has a large opening in the head to improve flash spread and brilliance. Over 100 flashes per minute are visible up to 2 miles. Light is offered with unidirectional or two-way heads with any combination of red, amber, blue, green or clear optical plastic lenses. Made by **R. D. Fageol Co.,** Dept. N, Kent, O.

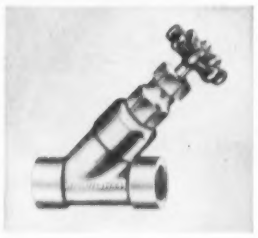
For more details circle NED-214 D7 on enclosed inquiry slip

HAND-OPERATED COUNTERS register up to 9999 with thumb

Recording of parts inspected, traffic counts, time and motion studies and inventory in plant and warehouse are among applications for Tally-King hand tally counters. Light in weight, they have highly visible white-on-black numerals, a knurled resetting knob and a chrome plated finish. Model TK-1 has a ring which slips over the operator's finger and is operated by pressing a button with the thumb. It registers up to 9999. Similar model TK-2 has mounting base for attaching to desk, counter, wall or clip-board. Made by **Bankers & Merchants, Inc.,** Faymus Div., 3227 N. Sheffield Ave., Chicago 13, Ill.

For more details circle NED-215 D7 on enclosed inquiry slip

PLASTIC Y-GLOBE VALVE handles variety of corrosive fluids



Nontoxic, noncorroding plastic Y-globe valve provides tight shutoff and flow control of alkalies, acids, inorganic salt solutions and other corrosive fluids. It is made of rigid polyvinyl chloride and is of leakproof design. Operation can be up to 150 psi at 75° F. A tapered back seat on the stem permits repacking under pressure. A size for 1-in. pipe is now available, with sizes from ½ to 2 in. to be offered soon. Made by **Walworth Co.,** Dept. NED, 60 E. 42nd St., New York 17, N. Y.

For more details circle NED-216 D7 on enclosed inquiry slip

STOP Set Screw Skidding

NU-CUP* gives a better bite for greater holding power on small dia. shafts!

Setko exclusive Nu-Cup set screws end set screw skidding on even small shafts! The sharper point ... 42% sharper than conventional cups ... takes a better "bite". This gives a full circle impression, greater resistance to reversal with the same setting torque. Nu-Cup set screws are made of alloy steel, specifically heat treated to make higher setting torques possible ... assurance against screw head cracking. Available in all popular types.

Automation ... The new Setko System for hopper feeding headless set screws will orient and feed Nu-Cup set screws as small as #2 (.086" x ⅛").

Make this Nu-Cup Comparison Test ... Test Nu-Cup's greater holding power for yourself

Nutcracker Test Tongs with complete instructions and sample Nu-Cup set screws will be loaned on request. Setko will also send a copy of Catalog 21 with complete details on Nu-Cup set screws, Self-Locking, Self-Tapping set screws, and Setko's new System for hopper feeding headless set screws.

FAST DELIVERY SERVICE ... Setko delivers even specialized set screws promptly. You get what you need, when you need it!

*U.S. Pat. No. 2,778,265

Set Screw & Mfg. Co.
130 Main Street, Bartlett, Illinois (Chicago Suburb)

For more details circle NED-217 D7 on enclosed inquiry slip

HD-501 protects and preserves hose and guns.

Cut clean-up costs with hose and gun cleaner!

HD-501

Saves you up to 83% on thinner!

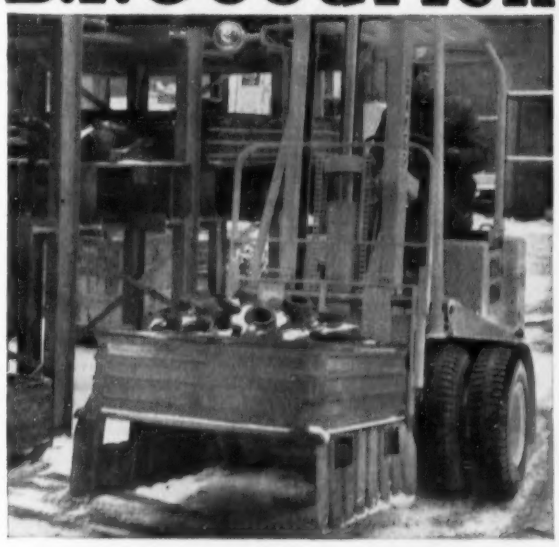
DeVilbiss Hose and Gun Cleaner removes *all* paint by forcing solvent charged with compressed air through hose and gun; cleans up to four 24-ft. lengths of hose with one filling. Serves several spray stations, or may be piped for use at one point. Write for data on HD-501 Hose and Gun Cleaner, *today!*

THE DEVILBISS COMPANY
Toledo, Ohio
Santa Clara, Calif. • Barrie, Ontario • London, England

DEVILBISS

For more details circle NED-218 D7 on enclosed inquiry slip

B.F.Goodrich



New All-Purpose Pneumatic industrial tire protects floors

EXTRA traction on all hauling surfaces, indoors and outside; increased floor protection; reduced operator fatigue and equipment maintenance; stronger construction and greater stability—these are some of the advantages of the new B.F.Goodrich All-Purpose Pneumatic industrial tire.

The All-Purpose tread has hundreds of gripping edges that give positive traction in forward or reverse. Husky shoulders and a continuous center rib wear slowly and evenly, give the All-Purpose greater stability under heavy loads. And because it's pneumatic, the All-Purpose gives a quiet, cushioned ride that protects driver, equipment and floors. Maintenance costs are cut.

FREE TWAP Analysis can save you money

The new All-Purpose Pneumatic is just one in a complete line of money-saving B.F.Goodrich industrial tires for every materials handling job. Picking the right tire for your work is the job of the B.F.Goodrich Tire and Wheel Analysis man. His unbiased recommendations can save you up to 50% on tire costs, up to 20% on maintenance costs. This B.F.Goodrich service is FREE—just mail the coupon. A consulting service is available to manufacturers of materials handling equipment.

Specify B.F.Goodrich tires when ordering new equipment

B.F.Goodrich FIRST IN RUBBER

B.F.Goodrich Tire Co.,
A Division of The B.F.Goodrich Co.
Department TW-636, Akron 18, Ohio

I would like further information on your FREE TW Analysis.

Name _____
Company _____
Street _____
City _____ Zone ____ State ____

For more details circle NED-219 D7 on enclosed inquiry slip

Measure Speed This Modern Way

FRAHM® RESONANT REED TACHOMETERS

SAFE • SIMPLE • SURE • LOW COST

JUST TOUCH

FRAHM® RESONANT REED TACHOMETERS require no contact with moving parts—no risk of accident—just touch it to the machine or motor housing.

EASY TO READ

No calculations or conversions—just read the scale where the predominantly vibrating reed indicates, directly in rpm.

NO BUTTONS

No need for gear or range changing devices—read in any position—cannot be damaged by overspeeding. Available in ranges from 900 to 100,000 rpm.

NO MAINTENANCE

Nothing to go wrong, unless abused—no moving or wearing parts—hence no oiling or adjustment needed.

D-708

Write for BULLETIN 31-D

JAMES G. BIDDLE CO.

Electrical & Scientific Instruments

1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-220 D7 on enclosed inquiry slip

FLEXAUST®

HOSE

is the answer to DUST and FUME control

- FLEXAUST hose, made of neoprene coated cotton or nylon fabrics spiral wired reinforced, is strong and durable.
- Easy to cut, install, connect, reuse and relocate.
- Proven for 20 years in *all* kinds of dust and fume control. Especially good for elbows, offset bends and leads from permanent duct work to moving hoods, etc.

Sizes 1¼" thru 36" I.D.

WRITE FOR FREE CATALOG TODAY

DISTRIBUTORS IN ALL PRINCIPAL CITIES

THE FLEXAUST COMPANY

Dept. NED-4 • 100 Park Avenue • New York 17, N. Y.

For more details circle NED-221 D7 on enclosed inquiry slip

...yours FREE!

the newest, latest ALEMITE Lubrication Fitting CATALOG

easy to use! speed detailing!

This simple, easy-to-use catalog lets you quickly and accurately select the right type Alemite fitting for any bearing. Each fitting is illustrated actual size — complete with individual dimensions. Write for your free catalog now! Address Alemite, Dept. HH-47, 1850 Diversey Parkway, Chicago 14, Illinois.

ALEMITE

REG. U. S. PAT. OFF.

Division of STEWART-WARNER CORPORATION

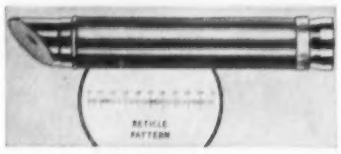
1850 Diversey Parkway, Chicago 14, Illinois

STEWART SW WARNER

For more details circle NED-222 D7 on enclosed inquiry slip

MEASURING MICROSCOPE

50-power comparator fits in pocket

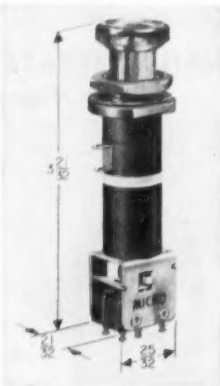


Checking of small parts and dimensions is facilitated with this 50-power measuring microscope. It is also usable for inspection purposes. This pocket instrument has a precision glass reticle calibrated for up to 0.1-in. measurements in increments of 0.001-in. Chrome reflector at base reflects light on object being examined or measured. Price is $7.95. Available from **Edmund Scientific Co.,** 180 E. Gloucester Pike, Barrington 23, N. J.

For more details circle NED-223 D7 on enclosed inquiry slip

LOCK-DOWN SWITCH

is illuminated pushbutton type

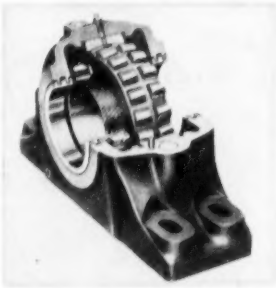


Functioning as a conventional pushbutton type lighted switch when pushed straight down, this dual purpose lock-down switch is maintained in the operated position when pushed and turned about 20 degrees clockwise. Turned counterclockwise from this position, it pops up into the unoperated position. Designated the 52PB7-T2, it has a subminiature bulb, independent of the switch circuit, that illuminates its translucent button. UL-listed unit is rated at 5 amp, 125 or 250 v ac. Made by **Minneapolis-Honeywell Regulator Co.,** Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-224 D7 on enclosed inquiry slip

ROLLER BEARING PILLOW BLOCK

incorporates new mounting feature



Spher-Align spherical roller bearing pillow blocks can be seated solidly on shafts quickly and easily by means of the Micro-Mount mounting feature. After bearing is snugged up with adapter nut, set screws parallel to bore in the adapter nut are turned against locking washer until bearing, adapter and shaft form an integral unit. Lubricant enters at center and moves outwardly along all bearing surfaces. Drain plugs allow use of either grease or oil and facilitate flushing. Both expansion types are stocked in sizes to fit shafts from 2 7/16 to 8-in. diameter. Made by **Dodge Mfg. Corp.,** 600 S. Union St., Mishawaka, Ind.

For more details circle NED-225 D7 on enclosed inquiry slip

the ONLY **PORTABLE NIBBLER** *that* **CUTS** 10 Gauge Steel *Without Distortion!*

A big statement... and only Fenway can make it! Our portable Nibblers have solved unusual problems for hundreds of users. Complete line includes the 14 gauge Nibbler and a light-duty 18 gauge Nibbler, and a special 90° head for each.

RCA — DU PONT — GENERAL MOTORS — and many others, use Fenway Portable Nibblers!

ALSO AVAILABLE: CORRUGATED, JIGSAW ASSEMBLY & AIR TOOLS

WIRE • PHONE • WRITE for complete information

Model HN for 10 gauge Stainless Steel and 8 gauge Mild Steel. 6" radius.

Model MN for 14 gauge Stainless Steel and 13 gauge Mild Steel. 1" radius.

Distributed by EASCO PRODUCTS

PAT. #2278174 #2278311 #2535631

FENWAY MACHINE COMPANY INC.

Edgemont & Clementine Sts. Philadelphia 34, Penna.

For more details circle NED-226 D7 on enclosed inquiry slip

NOW ONE CHECK VALVE for all requirements

This DURABLA BASIC CHECK Unit, added to any standard fitting (such as the reducing coupling shown here) gives you a complete valve *suitable for ANY* service. Because DURABLA Check Valves will operate in any position, they can be installed without changing existing lines. Made of stainless steel, they will handle practically any liquid, gas or air—at all temperatures and pressures.

Available in seven standard line sizes, from ⅜" to 2". Write for complete information.

®

DURABLA MANUFACTURING COMPANY

114 Liberty Street, New York 6, N. Y.

DM-10

For more details circle NED-227 D7 on enclosed inquiry slip

NEW!

Milwaukee

½-inch "shorty" Hole Shooter

all ball bearing!

Meet the close-quarter champ! Weighing only 9¼ lbs . . . only 12¼" long, Milwaukee's Model 612 delivers ½ hp *at the chuck*, . . . 8 foot pounds of torque. No other "shorty" drill gives you so much power!

Every bearing a ball bearing! Gears and pinions heat treated alloy steel . . . helical cut for smooth, quiet power transmission. Spade handle directly—in-line→ with chuck for easier drilling . . . straighter, truer holes. Chuck is ½-inch Jacobs Industrial.

And, here's the best news of all! The Model 612—the world's most powerful ½-inch "shorty" drill—sells for only **$65**

for free demonstration see your Milwaukee Distributor or, Write for Bulletin D-12

The world's most powerful ½-inch "shorty" drill

Compare

"SHORTY" DRILL COMPARISON CHART*

Feature	Milwaukee Model 612	Brand "A"	Brand "B"	Brand "C"
Horsepower	55	244	335	282
Amps	6	3.5	5	4.5
Full Load Torque (Ft. Lbs.)	8	4	5	4
Spindle Speed (RPM)	600	450	500	550
Weight (in lbs.)	9¼	9½	8	9¼
Price	$65.00	$68.00	$68.00	$65.00

*based on accepted laboratory tests.

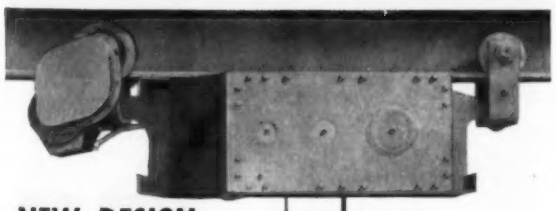
A 7-9183

MILWAUKEE ELECTRIC TOOL CORPORATION

5320 W. State St., Milwaukee 8, Wis.

Canadian Representative: Matthew Moody & Sons Co., Montreal

For more details circle NED-228 D7 on enclosed inquiry slip



NEW DESIGN LOW HEADROOM HOISTS

Fraction-of-an-inch control of capacity loads from 3 to 25 tons.

New light-weight, low-headroom design solves many installation problems – in 3 to 7½ ton capacities; distance between track and eye of hook measures only 21 inches!

INCHING CONTROL – A combination of instantaneous motor torque and dual braking system provides inching control of capacity loads within thousandths-of-an-inch. Plain, hand-geared or motorized trolleys available.

DUAL BRAKING – Regenerative braking built into LeTourneau electric motors automatically regulates load travel . . . has no wearing parts, needs no adjustment. Powerful electro-mechanical brakes stop and hold capacity loads, prevent overtravel.

If you need to move big loads in closely defined limits, write for full information on LeTourneau "Big Lift" Hoists.

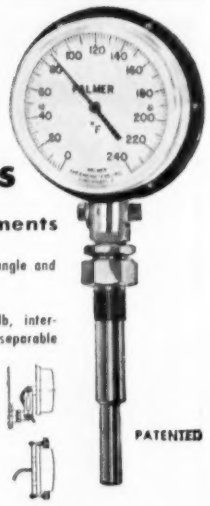
R.G. LETOURNEAU INC
INDUSTRIAL EQUIPMENT DIVISION
2564 South MacArthur • Longview, Texas

F-119

For more details circle NED-229 D7 on enclosed inquiry slip

PALMER

MERCURY ACTUATED
DIAL THERMOMETERS
in 3 types to suit any requirements



Full 4½" dial face. Stem can be placed at any angle and case can be rotated to any readable position.

1 **Rigid Stem Dial Thermometer** tapered bulb, interchangeable with standard industrial thermometer separable socket. (As illustrated above.)

2 **Wall Mounted Dial Thermometer** with flexible connecting armor. Case adjustable to easy reading position.

3 **Flush Mounted Dial Thermometer** for panel mounting with flexible connecting armor.

PATENTED

All three types have a full 4½" dial face.

for accuracy: Mercury actuated . . . Fully Compensated by Invar Compensation. Guaranteed Accurate 1 scale division.

for angularity: Can be adjusted to most readable position at any angle desired.

for readability: Bold Black Numbers . . . 11" of scale Reading Dial face can always be placed in easiest readable position.

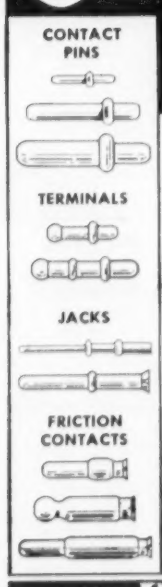
for interchangeability: Always specify "PALMER" Separable sockets as they are interchangeable for Dial or Industrial type Thermometers.

WRITE FOR CATALOG INFORMATION

PALMER THERMOMETERS, INC., Cincinnati 12, Ohio
Mfrs. of Industrial Laboratory Recording and Dial Thermometers

For more details circle NED-230 D7 on enclosed inquiry slip

50% SAVINGS with BEAD CHAIN® Multi-Swage Parts



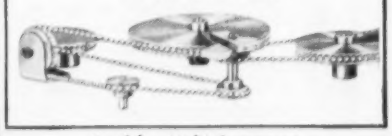
also PRINTED CIRCUIT MINIATURE PARTS

Contact pins, terminals, jacks or any small tubular parts. Maximum ¼" diameter x 1¼" length.

Send sketch for quotations.

BEAD CHAIN DRIVES

Low-speed positive drives or motion transfer . . . at far less cost!



Send for Multi-Swage or Bead Chain Drive Catalogs!

THE BEAD CHAIN MFG. CO.
16 Mountain Grove St., Bridgeport 5, Conn.

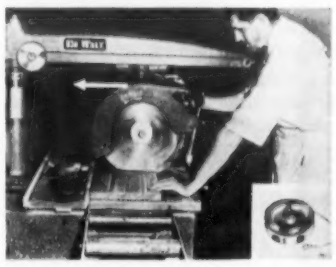
For more details circle NED-231 D7 on enclosed inquiry slip

SMALL VIBRATORY FEEDER handles up to 500 lb per hour

Having a trough size of only 1½ x 12 in., this model F-TO vibratory feeder will feed up to 500 lb of bulk materials per hour to various types of industrial equipment. Using an electromagnetic vibrating principle, unit operates on 115-v 60-cycle ac. Rheostat controls rate of material flow from mere trickle to full flow. Made by **Syntron Co.,** 405 Lexington Ave., Homer City, Pa.

For more details circle NED-232 D7 on enclosed inquiry slip

SAFETY TOOL RETURN retracts dangerous tool heads



Safe retraction of potentially dangerous tool heads is performed by this Spir'ator safety return device. Self-contained 5 1/16-in. diameter unit consists of special spring with enclosed housing, a cable reel, cable and threaded mounting stud. Spring offers negligible resistance to extension of tool, but positively retracts it to neutral position upon release. Minimum retracting force is 5.5 lb, while maximum is 9.3 lb through 11-ft total extension. Units are tested for over 200,000 cycles. Made by **Hunter Spring Co.,** Spir'ator Div., Dept. NED, 1 Spring Ave., Lansdale, Pa.

For more details circle NED-233 D7 on enclosed inquiry slip

DRUM WARMERS have bottom opening for bunghole

An extra opening near the bottom of Palmer 30 and 55-gal drum warmers makes possible use of the bunghole in the lower third of the drum for gravity flow into easily handled containers. Optional opening is 8 in. high by 3½ in. wide, ample for all standard lower bung openings. Drum warmers provide thermostatically controlled temperatures in 100 to 450° F and 60 to 250° F ranges. Made by **Harold L. Palmer Co.,** Dept. 48, 2980 W. Davison Ave., Detroit 38, Mich.

For more details circle NED-234 D7 on enclosed inquiry slip

GASKETS · SHIMS WASHERS

From 1 to 1 Million

No matter what type, thickness, shape or quantity required, you can count on Chicago-Wilcox for uniformly accurate gaskets, shims, washers or special stampings.

With 50 years accumulation of dies, chances are we can furnish just what you need without a die charge—thus reducing costs substantially and assuring on-schedule delivery.

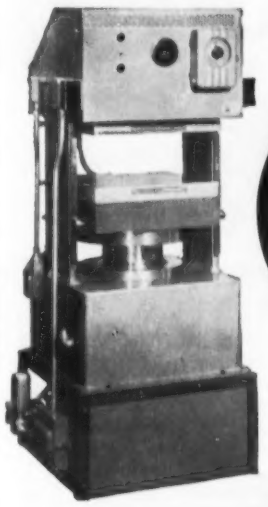
Gaskets, shims and washers can be supplied in metallic, non-metallic and plastics . . . teflon, nylon, etc. . . . and in quantities to meet your production requirements.

Write for catalog and submit your specifications for quotation.

CHICAGO-WILCOX MFG. CO.
7713 South Avalon, Chicago 19, Illinois

For more details circle NED-235 D7 on enclosed inquiry slip

The P·H·I Automatic 70 Ton Hydraulic Press



ELECTRIC
Hydraulic System, Cycle Timer, Heated Platens and Temperature controls

18"x18" Platens to 600°
with thermoswitch controls.
Two position ram gives
8"& 12" Daylight.
8" stroke with down stroke trip.

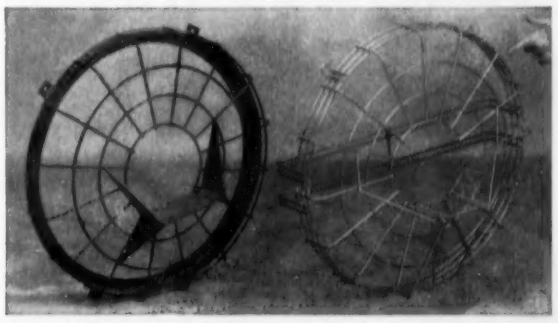
larger presses built to customers specifications

P·H·I PRESS

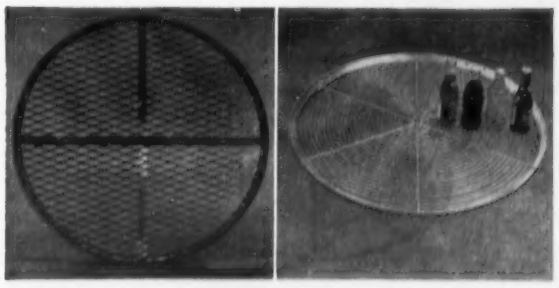
Write for Circular
PASADENA HYDRAULICS INC.
1433 North Lidcombe St.
El Monte, California

For more details circle NED-236 D7 on enclosed inquiry slip

COST CUTTING IDEAS . . . . by TITCHENER



SAVES $7.15 PER UNIT! Motor mount and guard (left), formerly used by famous electrical equipment manufacturer, required a heavy cast frame, cost $11, weighed 24 lbs. Working with customer's engineers, Titchener designed and built simple wire mount and guard (right). Wire unit costs only $3.85, weighs 13½ lbs., and improves performance. For details, circle Report No. 2.



SUPPORTS 200 LBS.! Spiral wire shelf (right) was designed and built by Titchener for beverage cooler manufacturer. Wire shelf is less expensive than expanded metal shelf, supports 200 lbs. without reinforcing. Circle Report No. 1.

Tell it To Titchener Learn how a wire/strip assembly can help you cut costs, ease material shortages and improve your product. Visit our plant and talk to our wire/strip experts. Or send drawings, photographs or samples. We'll send you our suggestions—no cost or obligation.

MAIL THIS COUPON

WIRE/STRIP HEADQUARTERS
E. H. TITCHENER & CO.
Dept. 3502
67 Clinton St., Binghamton, N.Y.

Send Wire/Strip Application Reports circled: Nos. 1 2
☐ Have a Titchener Field Engineer call.

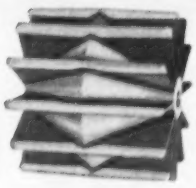
NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-237 D7 on enclosed inquiry slip

DESIGNED TO CUT BELT COSTS

SPROUT-WALDRON

BELT-SAVER PULLEYS



Write for Bulletin 33-C

The life of conveying belts can be increased from 50% to 400% with unique Belt-Saver Pulleys in installations handling sharp lumps and abrasive materials. Such materials slide away from the pulleys because of the special cone and wing design so belts cannot be damaged. For applications ranging from the handling of stone and gravel to wood chips and foundry sand, Belt-Savers are big money savers.

Sprout-Waldron also offers a full line of cast-iron pulleys for transmission and conveyer use that provide top economies. Write for details.

SPROUT-WALDRON
Manufacturing Engineers Since 1866
8 LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

IN/500

For more details circle NED-238 D7 on enclosed inquiry slip

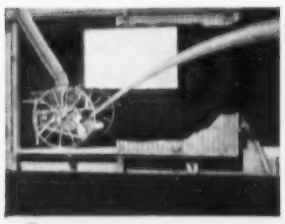
STEPHENS-ADAMSON
CENTRIFUGAL ACTION
THROWER UNITS

S-A SWIVEL LOADERS

. . . save money with every car you load. Permit faster, full-capacity loading without hand trimming. Quickly and easily loads up to 150 tons per hour of practically any bulk material.

These powerful S-A Thrower Units will load box cars or storage bins fuller, faster and more economically . . . provide greater capacity in the outside stock-piling of materials. They will efficiently handle up to 150 tons per hour of Grain, Fertilizer, Crushed Ore, Gravel, Chemicals, and other similar bulk materials up to 2" lump size. Easily and safely operated by one man . . . loads and trims in one operation. Improve working conditions, minimize dust.

SAVE TIME, WORK & MONEY



S-A BOX CAR LOADERS

. . . load and trim in a fraction of the time required by hand methods. Operated by one man from the outside . . . safe from dust and accident. Handle up to 150 tons per hour.

S-A SWIVEL PILERS

. . . increase stock-pile capacity up to 10 times . . . throw materials in any direction over an arc of 270°. Eliminate frequent conveyor moves. Ideal for handling up to 150 tons per hour of materials up to 2" lump size.

IN STOCK FOR IMMEDIATE DELIVERY

. . . for complete information on these time and cost saving units, request Bulletin 854

STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 Ridgeway Ave. Aurora, Illinois

For more details circle NED-239 D7 on enclosed inquiry slip

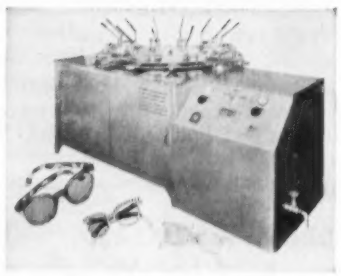
CONVEYOR DIVERGING UNIT separates packages going 150 fpm

Packages or cases traveling on roller conveyors at up to 150 fpm can be automatically separated to specific lines by this Auto-Diverger unit. Basic

separator unit requires only 3 ft 7 in. Commodities can be separated by counting, machine demand, size differences, weight differences, or by color code identification. Cases fed at 150 fpm results in a capacity of 150 twelve-in. cases per minute. Cases can be end to end on the conveyor line and will be separated as required without stopping the flow. Made by **Standard Conveyor Co.**, Dept. NED, 315 N. W. Second St., North St. Paul 9, Minn.

For more details circle NED-240 D7 on enclosed inquiry slip

SPRAY PAINTING MACHINE has rotary mask fixture mechanism



Parts to be decorated with slow drying paints or heavy viscous materials can be processed on this automatic reciprocating type spray painting machine which has a rotary mask fixture mechanism. Infra red or other means of force drying permits parts to be handled, stocked or assembled immediately after removal from the machine. Masks can be used until shadowing occurs. One operator performs all functions. Machine can be built for spraying parts of any dimensions. Plastic parts can be glued, clamped and decorated in one operation. Hand or automatic hold-downs are optional and the table can have manual or automatic indexing. Made by **Conforming Matrix Corp.**, 338 Toledo Factories Bldg., Toledo 2, O.

For more details circle NED-241 D7 on enclosed inquiry slip

Industrial Control Board

Visi-trol Engineering Co.—Visual industrial control systems which provide low-cost fingertip method for charting operating and production data are described in 4-page bulletin IC-1156. Systems minimizes record-keeping by sight-recording all facts needed to control production, scheduling, inventories, sales, budgets and other processes.

For more details circle NED-242 D7 on enclosed inquiry slip

VOLTS? AMPS?

DON'T GUESS, GET YOUR ANSWER QUICKLY WITH THE
COLUMBIA
TYPE AC-1
VOLT-AMMETER

Insulated jaws open in center

QUICK, EASY READINGS WITH THE COLUMBIA TYPE AC-1 VOLT-AMMETER

Readings taken without circuit interruption

Conveniently sized 3½" wide, 11" long

Save time, eliminate guesswork by reading up to 600 amperes or 600 volts with the conveniently sized Type AC-1. Simply snap jaws around electrical conductor for amperes; use safety plug in leads for volts. Convenient switch enables operator to select the following A.C. ranges: 0/12/60/120/600 amperes; 0/150/600 volts.

For use on frequencies from 25 to 400 cycles. Jaws accommodate bare or insulated conductors up to 1½" diameter, or bus bars to 2" x ½".

Ranges are changed with quick, thumb movement

Trigger opens jaws quickly and safely

Write today for Bulletin AC-25

$57.50
With Voltage Leads and Carrying Case

COLUMBIA
COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
Cleveland 14, Ohio
6661-CE

For more details circle NED-243 D7 on enclosed inquiry slip

A Popular Formula for Finer Finishes . . . featuring
JEWEL BRAND ABRASIVE BELTS

AP on-the-job analysis of finishing operations, PLUS the precise JEWEL BRAND Abrasive Belt (the belt with the velvet joint) to meet the requirements, is helping a leading manufacturer of stainless steel golf clubs to produce superior finishes at low cost. Try this formula.

JEWEL BRAND Abrasive Specialists have a knack for solving abrasive problems and they have a line of products to meet every need — for grinding, smoothing, or polishing metal, wood, plastics, leather or rubber. For quick service write Abrasive Products, Inc., 525 Pearl Street, South Braintree, Massachusetts.

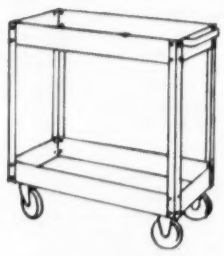
JEWEL BRAND Abrasives include: JEWELOX . . . Jewel Brand of Aluminum Oxide; JEWELITE . . . Jewel Brand of Silicon Carbide; JEWEL GARNET; NEW PROCESS, an electric furnace product; JEWEL EMERY; PILGRIM FLINT PAPER and SPECIALTIES.

JEWEL BRAND coated ABRASIVES

For more details circle NED-244 D7 on enclosed inquiry slip

IMMEDIATE SHIPMENT

BAY STOCK CARTS



A real step and time saver in your Factory, Mailing Department, Receiving Department, Shipping Department, Stock Room . . . Baked green finish. Shipped knocked down, one in a carton.

No. C174rH
- Height: 32" Including Casters
- Trays: Two 16" W. x 30" L. x 3½" H.
- Handle: One
- Casters: Two 5" Rigid—Two 5" Swivel

PRICES F.O.B. FACTORY OR WAREHOUSE PHILA.

Complete Catalog & Price List on Request.

Phone: BAldwin 9-1805

$21.24
With Regular Rubber Casters

BAY PRODUCTS INC.
3009 N. 16th St., Phila. 32, Pa.

For more details circle NED-245 D7 on enclosed inquiry slip

measure fluid flow with these low-cost meters

BULL'S EYE SIGHT FLOW INDICATOR
See flow thru ½" thick bolted sight glass cover. Estimate flow rate visually.

MAGNASIGHT ALL-METAL FLOW RATE INDICATOR
Gives fairly accurate reading of high pressure flow through straight runs in limited space.

RATOSIGHT FLOW RATE INDICATOR
Glass scale shows flow rate changes instantly with reasonable accuracy. Good for "roomier" installations or at pipe turns.

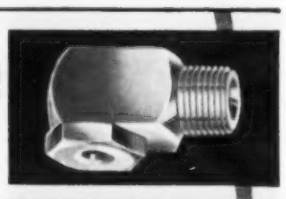
ARMORED PURGE METER
Rugged, all-metal, indicating flowmeter for gas, oil, and other purge fluids under high pressure.

All of these inexpensive flowmeters, along with many highly accurate, more expensive models comprising the F&P flowmeter line, are available from stock for immediate shipment. Write for data on those that interest you.

FP
FISCHER & PORTER COMPANY
3547 County Line Road, Hatboro, Pa.

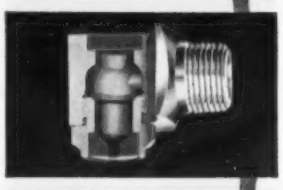
For more details circle NED-246 D7 on enclosed inquiry slip

Spray Nozzle types choice of over 12,000 basic designs



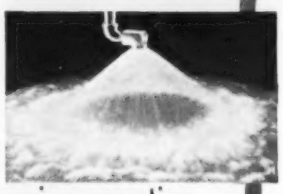
materials

brass, stainless steel, lead, hard rubber, hardened steel, tungsten carbide and many others.



performance

uniform distribution with spray angle, capacity, impact and atomization to your specifications.

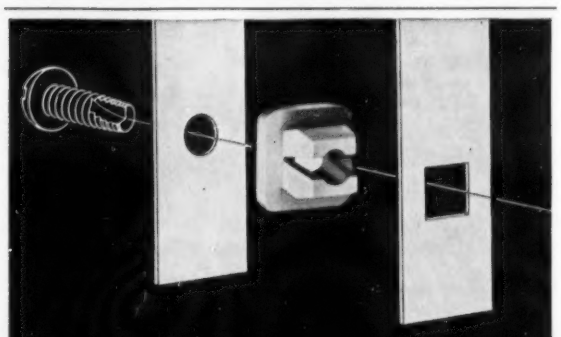


to improve every spraying operation

Improve performance, lower spraying costs with Spraying Systems spray nozzles. Prompt delivery. For complete information write for Catalog 24.

SPRAYING SYSTEMS CO.
3211 RANDOLPH ST. • BELLWOOD, ILL.
ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE

For more details circle NED-247 D7 on enclosed inquiry slip



NEW!

New nylon Plasti-Grommets can reduce costs of nearly any assembly. It snaps into prepared hole, stays tight even under severe vibration, is non-corrosive, non-conductive, won't chip or craze, is available in any size, any color.

Write for Booklet today.

FASTEX®
PLASTI-GROMMETS®
BLIND SCREW RECEPTACLES LOCK TIGHT, SAVE ASSEMBLY TIME!

FASTEX itw
195 Algonquin Road, Des Plaines, Illinois
In Canada: SHAKEPROOF-FASTEX, Division of Canada Illinois Tools Ltd., Toronto, Ont.
A DIVISION OF ILLINOIS TOOL WORKS

For more details circle NED-248 D7 on enclosed inquiry slip

A NEW DIMENSION IN DESIGN MATERIAL...

PRECISION BORE GLASS TUBING

Wilmad Offers Unheard-Of Accuracy and Low Cost

Design Engineers are constantly searching for new materials to reduce costs and improve preformance. Wilmad has helped make glass a "new" material by producing precision bore tubing of uniform accuracy with amazing tolerance limits. Wilmad Precision Bore Tubing can be used in making product components, instrument assemblies or sub-assemblies, wave guide tubes, manometers, rotameters, viscosimeters, barometers, McLeod gauges, dilatometers, burettes, dash pots, capacitors, diodes . . in virtually hundreds of precision applications in industry.

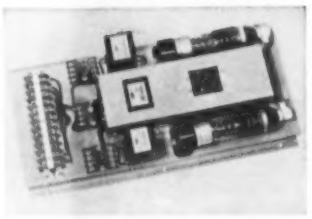
Learn how precision bore glass tubing can improve **your** product. Let our engineers help you determine how Wilmad Glass Tubing can solve your design problems.

Write for our **new** bulletin on Precision Bore Tubing.

WILMAD GLASS CO., INC.
Landisville, New Jersey

For more details circle NED-249 D7 on enclosed inquiry slip

THYRATRON AMPLIFIERS used in power control devices



Packaged Thyraline amplifiers for use in power control devices are offered with thyratron tube ratings from 2.5 through 18 amp output, single, two and three-phase. They can be connected for back-to-back, one, two or three half-wave operation and bridge circuits, and are designed for vertical panel board mounting. Any type motor drive positional servo, lighting or heating controller can easily be put in operation by connecting control elements, control voltages or currents, load and feedback transducers. Amplifiers come with Thyrapulse packaged grid circuits, circuit breakers, warm-up time delay, spare plug-in sockets, power transformer and tubes. Made by **Hanson-Gorrill-Brian, Inc.**, 85 Hazel St., Glen Cove, N. Y.

For more details circle NED-250 D7 on enclosed inquiry slip

HOLE CHAMFER MACHINE countersinks blind holes in parts

Functional chamfering of hidden holes is performed by this Burr - Master machine which uses custom - tailored workholding fixtures. Illustrated two-station machine is used to countersink 20 blind holes on the internal diameter of a stator-blade piston for an automatic transmission. Parts are semi-automatically positioned, manually clamped and index automatically for the complete work cycle. Production rate is 200 parts per hour. JIC electrical controls and two 1-hp 220-440-v ac motors are used. Made by **Modern Industrial Engineering Co.**, 14230 Birwood Ave., Detroit 38, Mich.

For more details circle NED-251 D7 on enclosed inquiry slip

Gearing & Speed Reducers

Horsburgh & Scott Co.—Available to design engineers and purchasers of gears, catalog No. 57 contains complete information on gear materials and heat treatment, company's gear cutting capacity, available tooth forms, comparisons of mill-formed and generated spur gears, AGMA Class L horsepower ratings, horsepower formulas, lubrication specifications, shaft size formulas and tables, maximum bores for pinions and moments of inertia. Information is indexed for ready reference.

For more details circle NED-252 D7 on enclosed inquiry slip

Of increasing interest

TO COMMUNICATIONS ENGINEERS

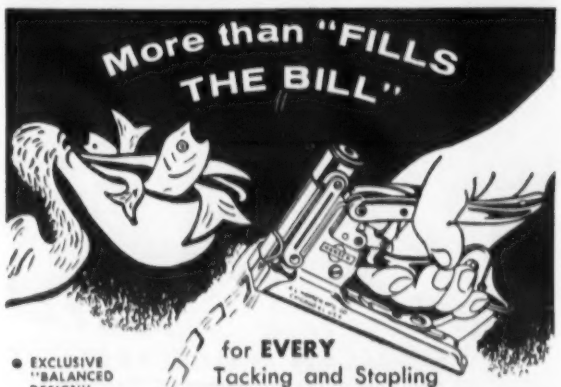
WHEELER
SOUND POWERED
Electric
TELEPHONES

If you are working with communications systems, you will want to know about Wheeler's completely perfected and highly efficient Sound Powered equipment . . . broadly adaptable to many special fields and uses. No batteries! No outside power! No deterioration or maintenance. Write for literature. Outline your special needs, whether for systems or components.

HANDSETS
•
PAIR PHONES
•
DESK SETS
•
SYSTEMS

the WHEELER INSULATED WIRE COMPANY, INC.
Division of Sperry Rand Corporation, 1108 East Aurora St., Waterbury 20, Conn.
In Canada: Sperry Gyroscope, Ottawa Ltd., Ottawa
6WH55A

For more details circle NED-253 D7 on enclosed inquiry slip



- EXCLUSIVE "BALANCED DESIGN" by HANSEN
- PRECISION BUILT TO HIGH STANDARDS
- SPLIT-SECOND AUTOMATIC REPEATER ACTION
- FINGER-TIP TRIGGER-TYPE RELEASE
- RUGGED ALL-STEEL CONSTRUCTION

for EVERY Tacking and Stapling Requirement HANSEN offers the most complete line!

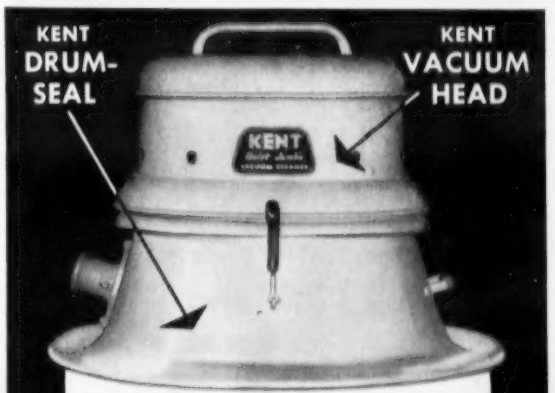
There are 36 different models with 80 staple sizes from which you may select the HANSEN Automatic High Speed Tacker that has been scientifically designed for your particular need. There is no job too difficult for a HANSEN One-Hand Tacker! Adaptable to countless uses and applications in your business.

You're paying for the best . . . Why not specify it by name — HANSEN

Request your free booklet today!

A. L. HANSEN MFG. CO.
5164 RAVENSWOOD AVE. CHICAGO 40, ILL.

For more details circle NED-254 D7 on enclosed inquiry slip



FOR WET OR DRY PICK-UP . . . IDEAL FOR BOILER CLEANOUT

Assemble your own vacuum cleaning outfit to handle those extra-dirty jobs! Here's the ideal combination . . . Kent DRUM-SEAL, any Kent Vacuum Head, any metal container up to 55-gal. drum size. Capacity limited only by size of container.

For normal wet pickup and cleaning up large areas of liquid . . . fast removal of dust, dirt, sawdust, metal chips, filings, and other small debris . . . especially suited for efficient boiler cleanouts.

WRITE TODAY FOR FULL DETAILS
KENT CO., INC.
449 Canal Street
ROME, N.Y.

For more details circle NED-255 D7 on enclosed inquiry slip

This is the punchable laminated plastic with high insulation resistance. Resists high humidities.

Synthane XXXP-IR

Insulation for television tuner hot punched from Synthane Grade XXXP-IR

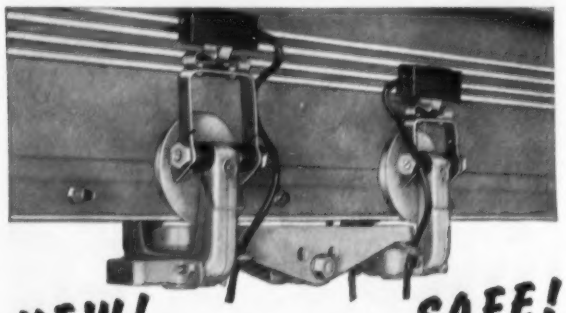
For the many electrical and electronic parts that require a *punchable* insulation of outstanding properties, Synthane Grade XXXP-IR fills the bill. A paper base laminate with high insulation resistance, low moisture absorption, low dissipation factor and low cold flow. Recommended for use under high humidity conditions and may be readily punched when heated. Insulation Resistance 50,000 megohms (96 hrs., 90% rel. humidity, 95°F), low moisture absorption, very low dissipation factor (0.030, 1 megacycle), and low cold flow.

SYNTHANE
SYNTHANE CORPORATION,
N. E. River Rd., Oaks, Pa.

☐ Please send me promptly information about Synthane XXXP-IR
☐ I am interested in other Synthane Grades

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-256 D7 on enclosed inquiry slip



NEW! SAFE!

AMERICAN MONORAIL KANT SHOCK SHIELDED ELECTRIFICATION

For MonoRail Track and Crane Systems

By covering its standard bus bar electrification with a specially designed polyvinyl chloride extrusion, American MonoRail now furnishes completely safe electrified systems.

This KANT-SHOCK shielding absolutely prevents accidental contact with live bus bars. It is impossible for an adult's finger to enter the shield.

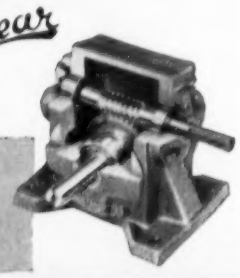
KANT-SHOCK Electrification positively eliminates all the hazards of open bar conductors—prevents costly accidents—protects employees—reduces insurance rates.

Write for KANT-SHOCK Bulletin KS-1

THE AMERICAN MONORAIL CO.
13116 ATHENS AVENUE • CLEVELAND 7, OHIO
(IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.)

For more details circle NED-258 D7 on enclosed inquiry slip

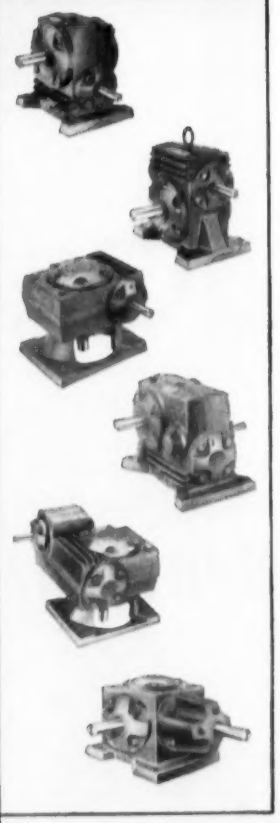
BOSTON Gear SPEED REDUCERS



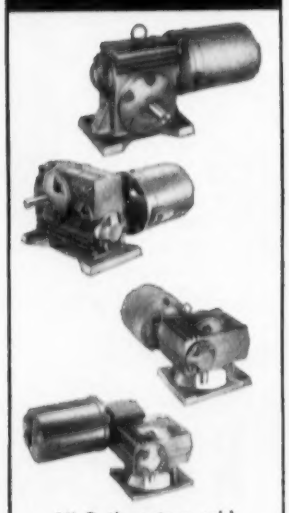
1605 TYPES and RATIOS FROM STOCK

Why pay more for specials?

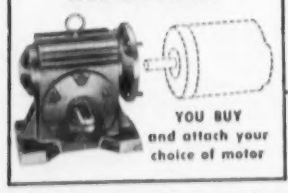
REDUCTORS Ratios 1:1 to 3600:1 .004 to 50 HP



RATIOMOTORS Output RPM .49 to 175



All Ratiomotors sold also without motors as **FLANGED REDUCTORS**



YOU BUY and attach your choice of motor

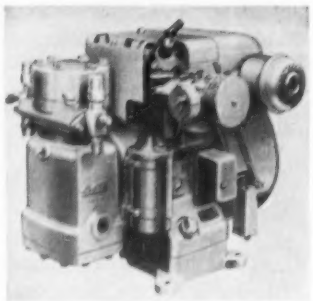
Models for any drive . . . horizontal or vertical — right angle or parallel — single or double reduction.

CATALOG No. 56 lists full information — helpful engineering data. Boston Gears Works, 69 Hayward St., Quincy 71, Massachusetts.

CALL YOUR **BOSTON Gear** DISTRIBUTOR

For more details circle NED-259 D7 on enclosed inquiry slip

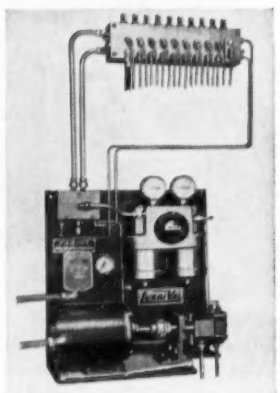
ENGINE-DRIVEN COMPRESSORS for refrigeration, air conditioning



Capacities ranging from 1 to 5 tons are available in three gasoline engine-driven compressors for air conditioning and refrigeration applications. They are especially adaptable for mobile or isolated use. Freon-12 or Freon-22 compressors are direct-connected to short-stroke, 4-cycle, air-cooled, gasoline or propane fueled engines. Condenser fan is mounted on engine shaft. Governor maintains constant speed under varying load conditions, and speed is adjustable to vary the output. Electric starter, 12-v battery ignition system and electric choke are standard. Rated capacities are 13,500, 28,000 and 56,000 Btu. Made by **D. W. Onan & Sons Inc.**, 2516 University Ave. S. E., Minneapolis 14, Minn.

For more details circle NED-260 D7 on enclosed inquiry slip

CIRCULATING OIL SYSTEM indicates clogged oil lines in press, machine tool installations

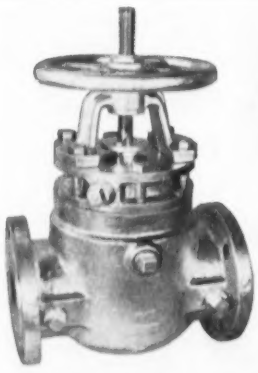


Circulating oil system for lubrication of presses and machine tools employs the Farval two-line principle to supply oil under pressure to Dualine measuring valves for delivery to bearing points. Valves in the Lubrival system have individual sight indicators.

Pressure sensing mechanism warns of clogged or broken lines in any part of the system by light or audible signal and shuts down machine. A variable delivery pumping unit permits a wide range in the number of injections per minute applied progressively to bearing points. Two measuring valves are interchangeable and can be manifolded together in any number to serve a piece of equipment. Several banks of manifolded valves can be served by one pump. Each valve serves two bearings, but cross-porting permits doubling lubricant for one bearing.

Packaged system also incorporates dual filter elements and an oil supply tank to which circulated oil returns by gravity for recirculation. It is engineered for the job and can be incorporated in machines with return lubrication systems. Made by **Farval Corp.**, 3283 E. 80th St., Cleveland 4, O.

For more details circle NED-261 D7 on enclosed inquiry slip



H&B ESTABLISHED 1867

All-Jacketed GATE VALVE

FOR MARITIME SERVICE

One type of H & B fabricated all-jacketed gate valves has been approved by the U. S. Coast Guard for maritime service. These valves do not need to be removed from the processing line to re-machine the seats. Replacement inserts can be installed in a matter of minutes—minimizing shutdown time. Valves in line sizes 1½" through 4" are available in cast iron, steel, bronze, Ni-resist and stainless steel. Valves in line sizes 6" through 10" are made of fabricated steel or stainless steel. Complete information on request.

Also Jacketed Pipe, Fittings, Plug Cocks, Pumps, Meters and Flexible Hose. Write for Bulletin J-56.

HETHERINGTON & BERNER INC.
719 KENTUCKY AVENUE INDIANAPOLIS 7, INDIANA

For more details circle NED-262 D7 on enclosed inquiry slip

How to make "off-the-shelf" units do special filtering jobs

Save time, money and headaches by using Purolator standard units to solve your filter problems — no matter how specialized. Wide range of requirements covered!

ACIDS	FATS	PAINTS
AIR	FOODS	PASTES
ANTIBIOTICS	FUEL	PETROCHEMICALS
ANTIFREEZE	GASES	PIGMENTS
BEVERAGES	GASOLINE	REFRIGERANTS
CATALYSTS	GREASE	SOLVENTS
COATINGS	HYDRAULICS	SYNTHETICS
CONFECTIONS	INTERMEDIATES	SYRUPS
COOLANTS	LACQUERS	TOOTHPASTE
COSMETICS	LIQUORS	VARNISHES
CUTTING FLUID	MEDICINES	VEHICLES
DETERGENTS	OILS	VITAMINS
ESSENTIAL OILS	OINTMENTS	WATER
		WAXES

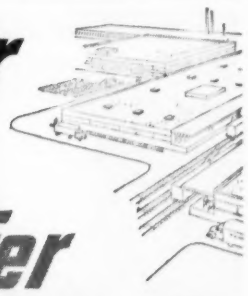
Filtration For Every Known Fluid

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada

WRITE for Industrial Filter Catalog, or send schematic drawing and details for specific recommendation. Address Purolator Products, Inc., Rahway, N. J.

For more details circle NED-263 D7 on enclosed inquiry slip

Safer liquid transfer for MODERN INDUSTRY



Want to handle industrial liquids with greater safety? Then install Tokheim hand pumps—specially adaptable to maintenance and production work. They help prevent spilling, slopping, over-filling, dripping. Your plant is kept cleaner—work is speeded—waste halted—accidents prevented.

Operating on both forward and backward strokes, these efficient pumps deliver 20 gallons per 100 strokes. Available with hose or spout outlets—also other interchangeable accessories. No plant should be without a battery of Tokheims.

Call your dealer, or Tokheim representative; write today for literature—including approved list of liquids.

QUALITY TOKHEIM HIGH-VACUUM HAND PUMPS

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT
1656 Wabash Ave. SINCE 1901 Fort Wayne 1, Ind.
Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind. Factory Branch: 475 Ninth Street, San Francisco 3, California In Canada: Tokheim-Reader of Canada, Ltd., 205 Yonge St., Toronto, Ont.

For more details circle NED-264 D7 on enclosed inquiry slip

EVEN TINY STEAM LEAKS COST MONEY

Old obsolete steam traps—traps with scored valves—badly worn parts—improper alignment of valves and seats—permit steam to escape. This results in tremendous losses of fuel. Check your steam traps. If they are wasting fuel, change to Super-Silvertops, the engineered trap. Order from your jobber or Anderson agent today.

FREE TRAP SELECTOR BOOKLET

Tells how to select and install traps to get maximum production. For free copy, write for "Solving Steam Trap Problems," The V. D. Anderson Company, division of International Basic Economy Corporation, 1958 West 96th Street, Cleveland 2, Ohio.

The Engineered Steam Trap

ANDERSON SUPER-SILVERTOP STEAM TRAPS

For more details circle NED-265 D7 on enclosed inquiry slip

Eliminate Shipping Labels!

PRINT DIRECT

Speeds Up Freight Marking

Quick! Accurate! Easy! Print shipping information direct on cartons, boxes, packages. Eliminate double operation of preparing labels and then pasting them to the containers. Get 1,000 or more clear, sharp impressions from one stencil without re-inking. New FORM-CUT® Stencil has facsimile of your label or shipping form die-impressed into the stencil. Then type or write in address or identification data . . . attach to duplicator . . . and print, like using a rubber stamp. Write for Literature and FREE SAMPLE FORM-CUT STENCIL AND PRINT.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

Also for addressing shipping tags and labels . . . prints postcards, menus, forms, bulletins. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). At office or shipping room supply dealers.

OVER 35 YEARS **MULTISTAMP** STENCIL DUPLICATOR ®

MANUFACTURED ONLY BY THE MULTISTAMP CO. NORFOLK, VIRGINIA

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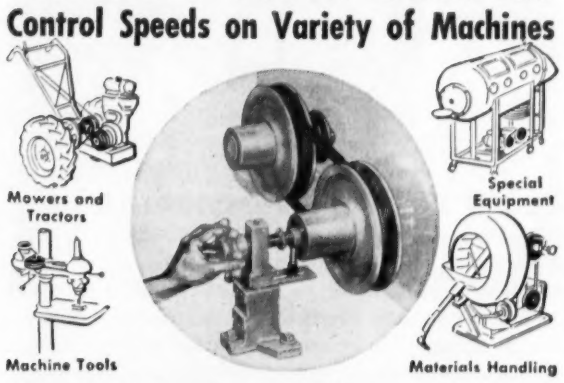
SPEED SELECTOR

VARIABLE PITCH SHEAVES

Control Speeds on Variety of Machines



New! Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

CATALOG FREE! WRITE TODAY

SPEED SELECTOR INC.

P. O. BOX 312-N · CHAGRIN FALLS, OHIO

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BUSY AS A ClarkeAmatic

—but not nearly as effective at cleaning floors. In fact, nothing cleans large floor areas in a hurry like the Clarke-A-matic. This startling, new, self-propelled maintainer automatically meters solution, scrubs, rinses, picks up and dries—all in one easy operation. It's 10 to 20 times faster than mopping, cleans up to 28,200 sq. ft. per hour, slashes costs and keeps floors sparkling.

Clarke-A-matic Floor Maintainer has two speeds, choice of two sizes, 26" or 30" brush spreads. Electric, propane or gasoline power.

Clarke *For details, write:* SANDING MACHINE CO. 224 Clay Avenue, Muskegon, Mich.

Authorized Sales Representatives and Service Branches in Principal Cities

Distributed in Canada: G. H. Wood & Co., Ltd., P.O. Box 34, Toronto 14, Ont.

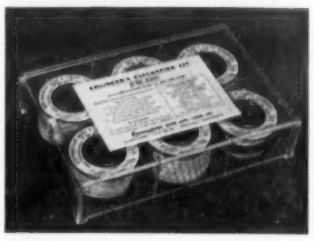
▲ For more details circle NED-268 D7 on enclosed inquiry slip ▲

PIPE HOOK
rated for 8500-lb loads

Thin-wall beveled edge oil or gas pipe is handled by this pipe hook which has a 1-in. throat opening and a wide flange lip. Safety handle prevents crushing hands and a soft brass insert in the neck prevents damage to beveled pipe edge or thin-wall pipe. The steel cast hook has 79,000 psi tensile strength, weighs 8½ lb and has rated safe working load of 8500 lb. Made by **Newco Mfg. Co.**, Dept. K, Box 5939, Kansas City 11, Mo.

▲ For more details circle NED-269 D7 on enclosed inquiry slip ▲

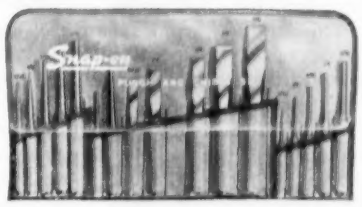
HIGH TEMPERATURE WIRES
kit contains eight insulated types



Fifty feet each of eight sizes and types of high temperature silicone rubber insulated wire are contained in this Engineer's Evaluation Kit. Temperature ratings are 150 and 200° C and wire sizes are No. 14, 18, 20, 22 and 24. All have stranded copper conductors, with two sizes silver plated and the others tinned. Insulations include 600 and 1000-v ratings. Three types have an outer glass braid, two have Dacron braid and the others are unbraided. Plastic box is compartmented. Made by **Springfield Wire & Tinsel Co.**, High Temperature Wire Dept., Box 638, Springfield, Mass.

▲ For more details circle NED-270 D7 on enclosed inquiry slip ▲

PUNCHES & CHISELS
square shaped with beveled corners



A square shape with beveled corners provides a comfortable surface for firm grip of these Octo-Square punches and chisels. Alloy steel used in these tools is heat-treated under controlled atmosphere for uniform hardness. Heads are then induction drawn under electronic control to reduce hardness for a controlled mushrooming striking surface. Chisel edges are ground to a 70-degree angle. Sets consist of five starter punches and five drift punches from 3/32 to 5/16-in., five chisels from 13/32 to ⅞ in. and two sizes of center punches in vinyl-fabric kit bags. Made by **Snap-On Tools Corp.**, Dept. NED, 8028 28th Ave., Kenosha, Wis.

▲ For more details circle NED-271 D7 on enclosed inquiry slip ▲

Let us take over your inventory problem!

Immediate Delivery!

ANY BORE SIZE • ANY MOUNT • ANY STROKE

CARTER CYLINDERS

Here's real help for engineers and designers who need fast action on cylinders. Carter's exclusive key type locking design and simplicity of parts *makes it possible to ship cylinder orders in 24 hours or less!* Now you can have rugged, dependable, compact quality cylinders when you want them. Your order is in process *minutes after we get it.* Get in touch with us *today* for cylinders you need tomorrow.

Catalog File! Air Cylinders; 750 Lb. Hydraulic; 1500 Lb. Hydraulic; Clamp Cylinders; Air Valves; Built-in Valve Type Cylinders. Complete with parts data, specifications and prices. Send today!

24 HOUR PHONE SERVICE—If you need fast service call your Carter representative or the plant. LANSING, ILLINOIS, GRanite 4-2305 or CHICAGO, BAyport 1-7186. Teletype LNSG, ILL 1119X.

CARTER CONTROLS INCORPORATED

2876 Bernice Road, Lansing, Illinois (Chicago Suburb)

AIR CYLINDERS • HYDRAULIC CYLINDERS

AIR VALVES • ROTARY ACTUATORS • SPECIAL CONTROLS

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SOLDERING HOT

in just 5 seconds

You get *full* soldering heat in just 5 seconds with a Weller Soldering Gun. No waiting, no need to plug or unplug. With *triggermatic* control, heat is instantly on—instantly off. Exclusive Weller Tip-Grip assures constant, uniform heat. Long-life Wellertips are chisel-shaped to provide the greatest possible transfer of heat. Select the correct heat for your needs from 5 models—100 to 275 watts, including single heat and dual heat types.

FULLY GUARANTEED FOR 1 YEAR

Order from your Distributor or Write direct for Catalog

ONLY $7.95 and up

Weller ELECTRIC CORPORATION 601 Stone's Crossing Rd., Easton, Pa.

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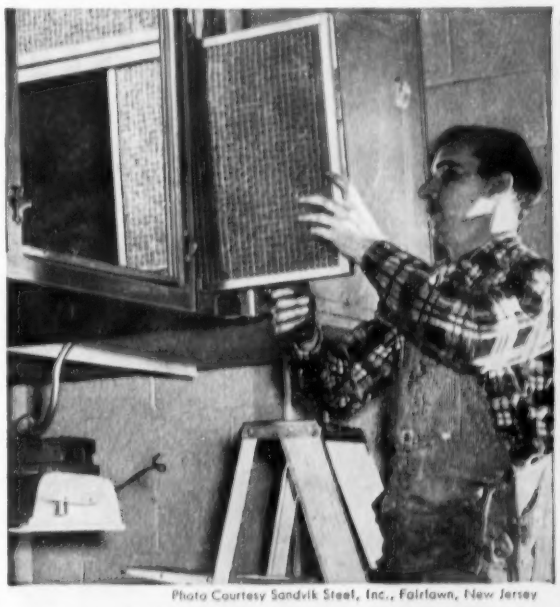


Photo Courtesy Sandvik Steel, Inc., Fairlawn, New Jersey

It cut his filter costs 70%

Probably your air filtering needs aren't anywhere near as critical as this manufacturer of fine watch springs. Every dust speck falling on a spring can absorb water—cause a rust spot. So the filters in his heating and air-conditioning system had to be replaced every 3 to 4 months.

Then he tried re-usable PLIOTRON filters—the first truly washable electrostatic air cleaner. *That cut filter use—slashed projected annual costs by 70%.*

And with PLIOTRON you get cleaner air. For PLIOTRON has a permanent electrostatic charge that captures up to 5 times as many fine dirt particles as ordinary filters. It's a depth-loader—using its entire depth to trap dirt and stretch the time between cleanings. And it lasts indefinitely, for it can be washed right out when dirty. No oiling's ever necessary.

Remember—there's a PLIOTRON filter to do a better, longer-lasting job in most any air-conditioning or forced-air heating system. See your PLIOTRON distributor—or write Goodyear, P. O. Box 288, Akron, Ohio.

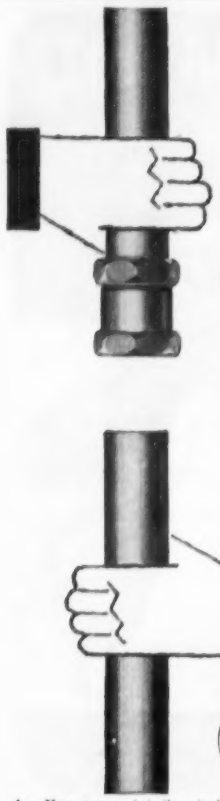
for cleaner air everywhere—

PLIOTRON AIR FILTER BY

GOODYEAR THE GREATEST NAME IN RUBBER

Pliotron—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-274 D7 on enclosed inquiry slip ▲



There's no easier way to join equipment piping than with Dresser Style 65 Fittings. Just stab plain pipe ends into factory-assembled fitting, tighten end nuts and you have a permanently tight, flexible joint. Dresser Fittings eliminate pipe threading, exact pipe fitting and alignment.

Speed up pipe joining with this fitting!

There's no welding, soldering, flaring, grooving or caulking. Every joint is a union. Sizes ⅜" to 2".

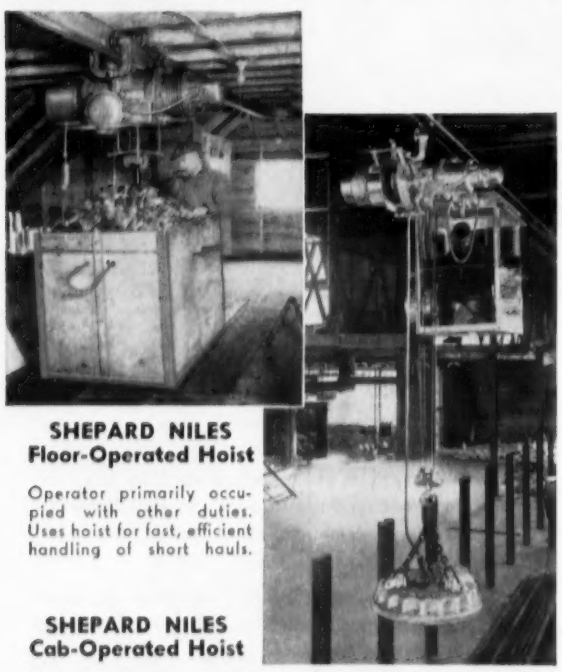
Complete line of couplings, tees, ells, etc. Write today for FREE catalog.

DRESSER

MANUFACTURING DIVISION
30 Fisher Ave.,
Bradford, Pennsylvania

For more details circle NED-275 D7 on enclosed inquiry slip

WHICH HOIST fits your plant's needs?



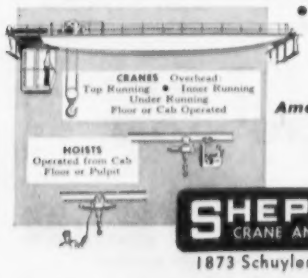
SHEPARD NILES Floor-Operated Hoist

Operator primarily occupied with other duties. Uses hoist for fast, efficient handling of short hauls.

SHEPARD NILES Cab-Operated Hoist

Operator in cab moves loads along at high speeds, occupies best vantage point for spotting and stacking material.

THE RIGHT HOIST . . . can reduce your plant's handling costs. But which one is best for the job . . . a floor-operated hoist where the operator is freed for other duties or a cab-operated hoist where he is engaged fulltime moving loads through the air? Because Shepard Niles manufactures both types of hoists – as well as a complete line of cranes . . . we can approach your handling problem with an open mind.



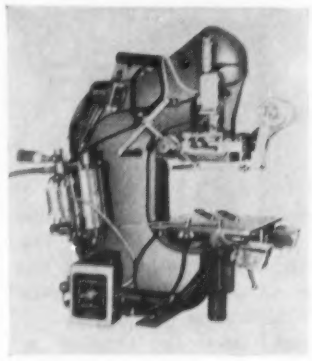
• Send for Bulletins describing Shepard Niles Cab and Floor-Operated Hoists. And request our representative to call.

America's Most Complete Line of Cranes and Hoists Since 1903

SHEPARD NILES
CRANE AND HOIST CORPORATION
1873 Schuyler Ave., Montour Falls, N.Y.

For more details circle NED-276 D7 on enclosed inquiry slip

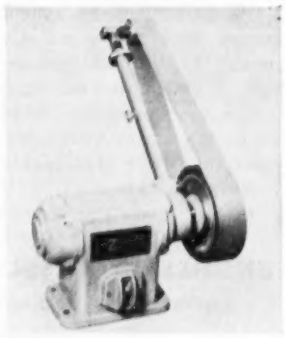
PLASTIC MARKING PRESS for flat to 5½ in. high items



Trade marks, decorations and other printed matter can be applied on plastic items of practically any composition and shape by this Kensol No. 60 roll leaf stamping press. Double-toggle air-operated press is available with two-hand safety switches or foot control, and is supplied with either one or two air cylinders which drive the toggles. Any item from flat up to 5½ in. high can be hot stamped merely by raising or lowering work table. Three-inch head movement allows ample daylight for feeding work. Head and roll leaf attachment sizes are 6 x 8 and 8 x 12-in. A 6 or 12-station, 20-in. diameter turntable attachment is available. Made by **OlsenMark Corp.,** 126 White St., New York 13, N. Y.

For more details circle NED-277 D7 on enclosed inquiry slip

BENCH GRINDER abrasive belt travels 5100 sfpm



By using a direct drive of the contact wheel in model DBA-O bench grinder there is no loss of speed or power of the abrasive belt. Available for both single or three-phase current, the lightweight, compact grinder is driven by a 0.6-hp motor which develops belt speed of 5100 sfpm. Used for grinding, polishing and deburring, grinder can also be used for squaring, chamfering and beveling with a platen attachment which attaches directly to idler arm. The idler arm incorporates belt tracking and tensioning mechanisms and can be rotated 360 degrees around the spindle for operation in any position. Standard belt is 2 in. wide by 48 in. long. Made by **Carborundum Co.,** Curtis Machine Div., 1302 E. Second St., Jamestown, N. Y.

For more details circle NED-278 D7 on enclosed inquiry slip

Liquid Processing

Alsop Engineering Corp.—40-page illustrated catalog G-956 deals with line of stainless steel liquid processing equipment, including filters, fixed-side and top-entering agitators, and transfer pumps. Actual installations, design variations, and application and performance data are given on various units. Pointers are included to aid in solving liquid processing problems.

For more details circle NED-279 D7 on enclosed inquiry slip

it IS possible to buy
FINE QUALITY CARBIDE TIPPED SAWS
at popular prices!

MEYCO MAINLINE **UNI-CHIP GRIND**

MAINLINE MEANS . . .
a saw blade engineered for tungsten carbide, built to high quality standards for top flight performance—priced at a level to compete with so-called low priced saws. "MAINLINE" also means a COMPLETE line . . . saws for ripping, precision, for all purpose work, and metal cutting, from 6" to 16" diameters and with different numbers of teeth.

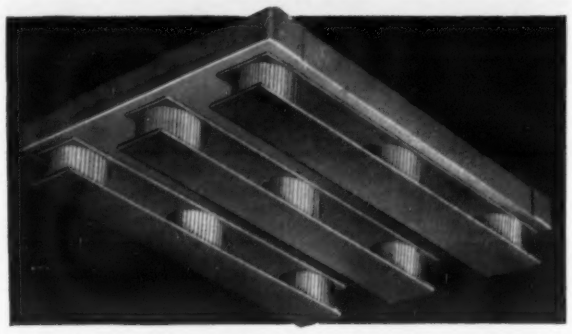
UNI-CHIP MEANS . . .
a tooth design (as indicated to the left) with alternating double-beveled and straight raker teeth so the strong bevel teeth can do the heavy cutting and the following straight raker teeth can finish a cut to desirable smoothness.

"MEYCO" MEANS . . .
a lifetime of reputation in the field of making precision cutting instruments, a name that can be depended upon for quality—regardless!

MAINLINE saw catalog available on request. Ask for catalog No. 69

W. F. MEYERS CO., INC., BEDFORD, INDIANA

For more details circle NED-280 D7 on enclosed inquiry slip



Bottom view of Signode expendable pallet showing patented corrugated posts.

Weighs 10 pounds . . . supports 6000

Low cost	Signode expendable pallets are low in first cost; eliminate all maintenance cost, save storage space.
Light weight	Cut shipping costs every mile, every load. Easy and clean to handle.
Strong	Rugged construction proved in use and in famous Signode testing laboratory.
Versatile	Standard or special sizes. Post placement variable. Tray or flat tops.
Expendable	No returns, therefore no shipping, record-keeping or storage costs on returns.

Competent Signode assistance on expendable pallet design and unitizing methods is available. For information on Signode Addison-Semmes pallets, write:

SIGNODE STEEL STRAPPING CO.
Dept. SP, 2642 N. Western Avenue, Chicago 47, Illinois
Offices coast to coast.
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

For more details circle NED-281 D7 on enclosed inquiry slip

How to lick drift...

CEC'S 3-132 D-C POWER SUPPLY

gives you outstanding stability with less than 5 mv/hr drift and less than 1 mv peak-to-peak ripple. Supplying up to 1 ampere at 0 to 15 volts d-c, the 3-132 Power Supply provides the utmost regulation over long periods, regardless of line-voltage changes or transients. Stability, adjustable output, maintenance-free design, and compactness make the 3-132 far superior to batteries for most applications, ideal for strain-gage excitation, as a secondary reference-voltage source and as a filament supply for sensitive d-c amplifiers. Please contact your nearby CEC field office, or write today for your copy of Bulletin CEC 1543-X9.

Consolidated Electrodynamics

300 North Sierra Madre Villa, Pasadena, California

NATIONWIDE COMPANY-OWNED SALES AND SERVICE OFFICES

For more details circle NED-282 D7 on enclosed inquiry slip

50% MORE TERMINALS IN THE SAME SPACE!

SQUARE D's *NEW* TERMINAL BLOCKS

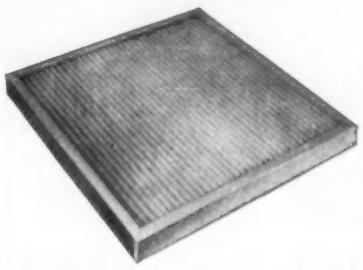
Write for Terminal Blocks Bulletin...
Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-283 D7 on enclosed inquiry slip

NEW DRY-TYPE WASHABLE AIR FILTER



A new air filter by Air-Maze combines the efficiency of a dry, oilless, completely washable panel with a greatly extended filtering surface for longer service life. Has over 8 times the effective surface area of a conventional panel. Especially efficient in removing lint from recirculated air, and for applications where oil vapors cannot be tolerated.

Special screen grids on both sides of filter permit lint to be brushed off several times before washing is necessary. Filter offers complete washability in cold water. May also be cleaned with a vacuum nozzle.

Made of corrosive-resistant materials—aluminum screen and polystyrene-bonded fiber glass media in galvanized channel.

Available in 2" thick panels—16" x 20", 16" x 25", 20" x 20", and 20" x 25" sizes. Write for Bulletin P70P, **AIR-MAZE CORPORATION**, Cleveland 28, Ohio.

▲ For more details circle **NED-284 D7** on enclosed inquiry slip ▲

KESTER SOLDERING FLUXES can be had in 160 different formulae, all widely proved by actual industrial use. Whatever your needs, we can supply a Flux that will give the exact results required. Kester Fluxes are available in the usual containers from 5 gallons to a pint.

Write today for Complete Flux Brochure

KESTER SOLDER COMPANY

4249 Wrightwood Avenue, Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

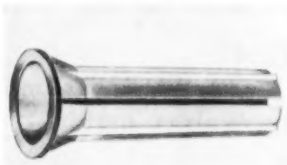
▲ For more details circle **NED-285 D7** on enclosed inquiry slip ▲

MAN-COOLING FAN
portable 24 to 48-in. sizes

Large aerodynamic hub and wide, thick blades with a hollow airfoil section are features of the type P man-cooling fan. It can be anchored to the floor or moved into position on steel wheels. Adaptable for cooling, drying and dissipation of hot air and fumes, the fan is available in 24 to 48-in. sizes. Swivel mounting permits up or down direction of air blast in a 90-degree arc. Two, four, six or eight wide steel or aluminum blades produce high pressure and keep noise level low. Fan assembly is of welded steel with a totally enclosed ball bearing motor. Made by **Detroit Blower Corp.**, 9865 Pacific Ave., Franklin Park, Ill.

▲ For more details circle **NED-287 D7** on enclosed inquiry slip ▲

SCREW ANCHOR
for wood or sheet metal screws



Rawloy lead alloy used in Scru-Lead screw anchor provides easy installation and good holding power. Top flare-out speeds anchoring time as screws are easily inserted. Anchor is usable with either wood or sheet metal screws in standard sizes. Made by **Rawlplug Co.**, Dept. ND, 212 Petersville Rd., New Rochelle, N. Y.

▲ For more details circle **NED-288 D7** on enclosed inquiry slip ▲

WELDING HELMET
easily attached to safety hat

Easy method of attaching or detaching a welding helmet without removing the Bullard hard safety hat on which it is used is provided by the Huntsman Roto Clip helmet linkage. "Cushioned" action of the locking device minimizes impact when lowering the helmet into place. Screw adjustment for vertical position is also provided for individual user comfort. Fabricated, seamless and acetylene welding helmet shells are available with metal rigid, plastic rigid and plastic lift type fronts. Made by **Kedman Co.**, Dept. NED, 233 S. Fifth W., Salt Lake City 1, Utah.

▲ For more details circle **NED-289 D7** on enclosed inquiry slip ▲

DEGREASER!
machinery shampoo

SPRAY OR BRUSH ON . . .

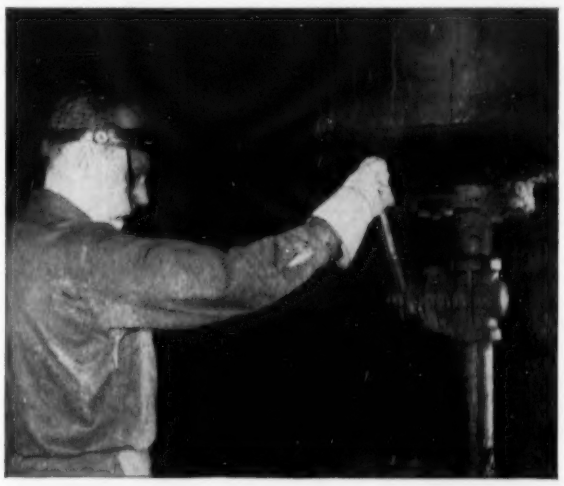
Takes cling out of oil and grease . . . emulsifies it . . . so that all dirt may be hosed off. Launders engines, lathes, machinery, faster, more completely than steam cleaning. Self scouring action brings out factory new appearance . . . provides accurate visual inspection. Where work will not withstand the use of water for rinsing, we can recommend suitable GUNK replacement. (GUNK is also an excellent paint brush cleaner.) Shipped in concentrated form . . . 55 gal. drum makes 500 gals. heavy-duty Degreaser! Genuine GUNK is sold in bulk sizes at better industrial wholesalers everywhere!

IMMEDIATE DELIVERY
1 PINT OR A TANK CAR

CURRAN CORP.
Mfg. Chemists
LAWRENCE, MASS.

(CHICAGO PLANT) GUNK CHICAGO CO. • CHICAGO 38, ILL. • (LICENSEE)

▲ For more details circle **NED-290 D7** on enclosed inquiry slip ▲



HOW TO CUT VALVE COSTS
on corrosive services

You'll save maintenance, replacement and down time dollars when you specify Rockwell-Nordstrom *lubricated* plug valves. The combination of corrosion resisting metal *plus* lubricant protection means that they will do a better flow control job, longer, and at lower cost than any other valve you've ever used.

The pressurized lubricant in Rockwell-Nordstrom valves assures a continuous, leakproof seal that stays tight on even the most corrosive services . . . costly reseating problems are eliminated. Lubricant also forms a tough protective film on the working surfaces and stops metal-to-metal wearing friction.

Rockwell-Nordstrom valves are available in a full range of sizes and pressure ratings in semi-steel, steel, stainless steel, bronze, Monel and other corrosion resisting metals. They cost no more, often less, to buy than ordinary valves. Write for complete details. Rockwell Manufacturing Company, Pittsburgh 8, Pa. *Canadian Valve Licensee:* Peacock Brothers Limited.

ROCKWELL-
Nordstrom
VALVES

Lubricant Sealed For Positive Shut-Off

▲ For more details circle **NED-291 D7** on enclosed inquiry slip ▲

The *POWRWORKER*® stacker

. . . HIGH STACKING in NARROW AISLES!

Walk it or ride it . . . the Powrworker is the easiest steering, easiest driving truck of its kind. With the Stacker you can make ninety degrees of turn in each direction. Controls are at your fingertips, gradeability is outstanding. Telescopic channel uprights provide a free lift of 64" with maximum lift of 130". The Powrworker Stacker is easy to service, offers maximum safety, and is built for the most rugged of operations. For a detailed construction booklet, mail the coupon below, or use the reader service card.

CLARK® EQUIPMENT

POWRWORKER SECTION
Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 21, Michigan

With no obligation send me your free full-color Powrworker booklet

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle **NED-286 D7** on enclosed inquiry slip ▲

How to GET THE JOB DONE at low, low cost!

benchmaster

world standard in small presses

Manufacturers all over the world have found Benchmaster Punch Presses the answer to *high production with minimum investment!* With their *compactness requiring little floor area, fast crankshaft speeds* and *high number of strokes per minute*, any Benchmaster will tremendously outproduce big presses on work where high tonnage is not necessary.

If your job is *beyond* the tonnage capacity of a single Benchmaster, investigate our Multiple Ram Presses ... 2 or more Benchmasters operating in tandem off a single crankshaft. You get *more bed area, progressive die operation with individual die stations, lower die cost* and *easier die maintenance* ... at savings up to 50% in press cost!

DON'T OVERLOOK THE POSSIBILITY OF A SPECIAL BENCHMASTER designed to accommodate your specific job. Ask for our recommendations!

CHECK YOUR BIG PRESS PRODUCTION AGAINST THESE OUTPUTS ... Then choose a Benchmaster for more parts per hour!

FREE CATALOG **benchmaster** World's largest manufacturer of small punch presses and dies 1835 West Rosecrans Gardena, California

▲ For more details circle NED-292 D7 on enclosed inquiry slip ▲

FOR TRULY AUTOMATED CONTROL

Consider the Jennings Wire Insulating Extruder . . . which uses three Graham Transmissions, remote electrically controlled. Graham was selected not only because of its unlimited speed range, but because of its extreme accuracy, highly important to the quality of the insulated wire.

INSIST ON *Graham*

most reliable variable speed drive made

MODEL 150MR7

Note the compact, built-in gearbox, on low speed applications, as well as the motor. This saves the cost and complication of separate speed reducers, couplings, and bases . . . a marked economy in money and space.

- **ULTIMATE in SIMPLICITY and COMPACTNESS** —only the Graham is a straight line extension of a standard induction motor—or available without motor.
- **UNLIMITED SPEED RANGE**—from any desired maximum speed to zero, including reverse if wanted without stopping motor.
- **UNMATCHED ACCURACY** — of speed setting and resetting and speed holding.
- **NO PERISHABLE PARTS** — such as belts or tubes, requiring periodic replacement.
- **PROVED PERFORMANCE** — twenty years satisfactory use as standard equipment.
- **LOW COST**—a better job for less money.

GRAHAM TRANSMISSIONS, INC.

Dept. NED, Menomonee Falls, Wis.

GET *Graham* *most reliable variable speed drive made* ENGINEERED and RATED for ROUND the CLOCK SERVICE

▲ For more details circle NED-293 D7 on enclosed inquiry slip ▲

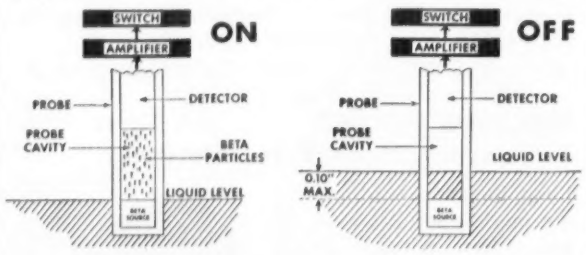
CONSTANT HEAT OVENS for various laboratory uses

Stainless steel interiors, front-mounted controls and a chamber design that combines air circulation and heat retention with maximum storage capacity are features of line of constant temperature ovens. Uses include general drying, paraffin embedding, dry sterilization, baking of varnishes and lacquers and other applications requiring precision controlled temperatures from 60 to 250° C. Nickel-chrome strip heating elements, mounted between inner and outer walls, are sealed off from air. Hydraulic type thermostat with built-in helical coil eliminates danger of arcing caused by high current surges. Two sizes with forced air or gravity circulation are offered. Prices range from $288 to $472. Made by **Central Scientific Co.**, 1702 Irving Park Rd., Chicago 13, Ill.

▲ For more details circle NED-294 D7 on enclosed inquiry slip ▲

LIQUID LEVEL SWITCH has radioactive sensing element and will actuate lamps, valves, motors

Performing accurately and reliably under extremes of temperature, vibration and shock, this liquid level switch utilizes a radioactive material in its sensing

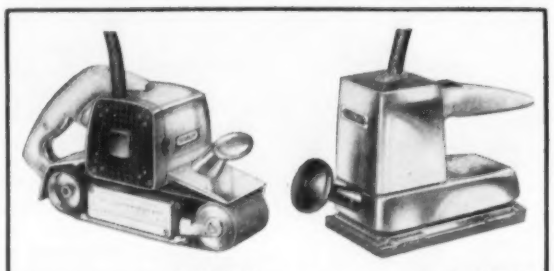


element. It was designed to control critically important fuel levels in supersonic aircraft and missiles. Switch consists of a pencil-size sensing probe containing a hermetically sealed beta source and a beta detector which is mounted inside the fuel container.

Entrance of liquid into a small cavity between two components reduces the radiation level at the detector, causing an electrical signal (amplified by a transistorized circuit) to actuate a relay. Latter switches on warning lamps, valves or servo motors. Operation is on 28 v dc at 0.05-amp, and the relay will switch a 2-amp load. Device operates under conditions of high shock and vibration and a wide temperature range. Made by **Robertshaw-Fulton Controls Co.**, Aeronautical Div., Dept. 107, Santa Ana Freeway at Euclid Ave., Anaheim, Calif.

▲ For more details circle NED-295 D7 on enclosed inquiry slip ▲

New Stanley Heavy Duty Sanders



H31 Belt Sander $84.95
- 3" x 24" or 3" x 23¾" belt
- runs cool and stays cool
- drive belt delivers full power to sanding belt
- no need for constant lubrication

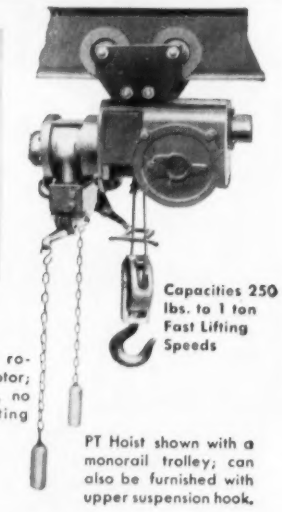
H36 Orbital Sander $49.95
- 3⅝" x 9" paper size — ⅓ standard sheet
- runs cool and stays cool
- drive belt delivers full power to the pad

Stanley Electric Tools
Division of The Stanley Works
New Britain, Conn.

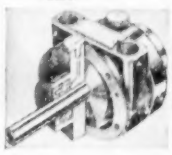
STANLEY

▲ For more details circle NED-297 D7 on enclosed inquiry slip ▲

PNEUMATIC HOIST with ROTARY AIR MOTOR



Capacities 250 lbs. to 1 ton Fast Lifting Speeds



Pulseless, rotary, air motor; no pistons, no reciprocating parts

PT Hoist shown with a monorail trolley; can also be furnished with upper suspension hook.

- Worm Geared
- Compact, Light Weight
- Exceptionally Smooth Running
- Close, Sensitive Control

• *Write for PT Bulletin 708*

DETROIT HOIST & MACHINE CO.
8226 Morrow St., Detroit 11, Mich.
Designers and Manufacturers Since 1905

▲ For more details circle NED-298 D7 on enclosed inquiry slip ▲

Picture above shows Truco vacuum water pick-up removing cuttings and coolant water as Truco unit is drilling. Because Truco is dust-free and relatively quiet, drilling was done in occupied sections of the building without disturbing tenants.

Job superintendent reports, "No other equipment could do the job the diamond drill performed on this project. It shaved weeks off our schedule and reduced our drilling costs materially."

TRUCO Drills 2½" Holes in 90 Seconds on 8,400 Outlet Electrical Project

JOB: Penetrate 3½" concrete cap over cellular steel flooring for 2½" dia. electrical outlets at Ford Motor Company's new Administration Building. 8,400 holes required to bring in electrical, telephone and intercom wiring for offices.

CONTRACTOR: Harlan Electric Company, Detroit

TOOLS: Truco Diamond Drilling Machine equipped with 750 RPM Motor and 2½" O. D. Truco Diamond Drill Bits. (Machine was also used for horizontal drilling).

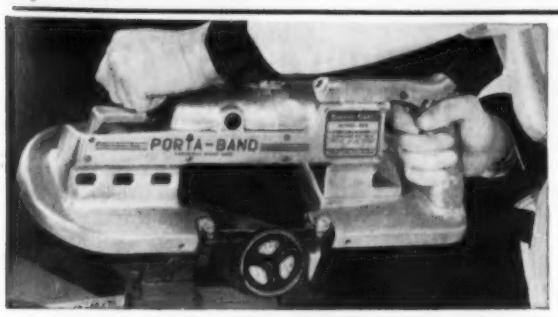
DESCRIPTION: Spotting crews located outlets and cut the rubber floor tile with a circular saw. Portable rubber-tired Truco Diamond Drilling Machine then drilled through concrete in 90 seconds per hole. Complete cores were lifted out leaving smooth, perfect holes, requiring no patching or finishing. Finished floor undamaged by drilling operation.

WRITE FOR NAME OF NEAREST DISTRIBUTOR

WHEEL TRUEING TOOL CO.

93-3200 W. Davison Ave., Detroit 38, Michigan

▲ For more details circle NED-296 D7 on enclosed inquiry slip ▲



Now—cut metal 15 times faster than hand hack sawing!

Slice through 1½" cold-rolled steel in 41 seconds—through 3½" lead-sheathed copper cable in 90 seconds! This new *Portable* Band Saw is *fast—two and a half times faster* than bulky power hack saws!

It's light, compact—handles easily, goes anywhere there's a job to be done. *Continuous cutting action* delivers smooth, controlled sawing in any position, even in cramped quarters—on ferrous and non-ferrous metals, "problem" materials.

Saves its cost over and over—send now for complete specifications and performance data.

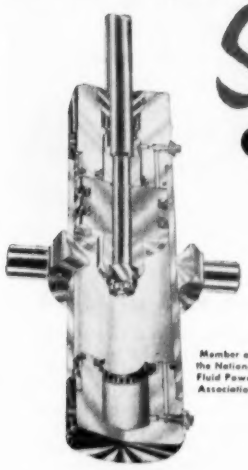
MODEL 524 PORTA-BAND — ONLY $215
WRITE TODAY FOR FULL INFORMATION

PORTER-CABLE Machine Company
7124 N. Salina Street
Syracuse 8, New York

Porter-Cable
Quality Electric Tools

For more details circle **NED-299 D7** on enclosed inquiry slip

all the EXTRAS are standard with



T-J Spacemaker CYLINDERS

- **NEW** *exclusive* ingenious cushion designs . . . Super Cushion Flexible Seals for Air . . . New Self-Aligning Master Cushion for Oil.
- **STRONGER** than outmoded tie rod design, proven through actual tests. No tie rods to stretch.
- **SOLID STEEL HEADS** throughout the full line.
- **COMPACT DESIGN** eliminates tie rods, increasing the strength and reducing mounting space required, providing extra room for adjacent equipment.
- **HARD CHROME PLATED** body bores and piston rods . . . assure you of long trouble-free service. (Standard at no extra cost.)
- **METALLIC ROD SCRAPER,** not just a wiper, actually removes foreign matter from the rod.
- **PILOTED PACKING GLAND** with extra long bearing. Additional strength and support to the piston rod.
- **OIL** pressure to 750 p.s.i. AIR to 200 p.s.i.

Member of the National Fluid Power Association

DELIVERY OFF THE SHELF!

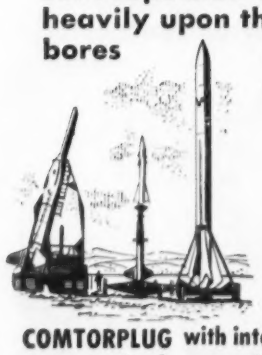
NEW LITERATURE—Send today for new Catalog SM56 with complete engineering details on Spacemaker line. Write The Tomkins-Johnson Co., Jackson, Mich.

T-J TOMKINS-JOHNSON
RIVETORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

For more details circle **NED-300 D7** on enclosed inquiry slip

Did you know that - - -

Jet Propulsion Equipment relies heavily upon this gage for critical bores



Precision Internal Gage
SIZES FROM
1/8" to 10"
AND LARGER

COMTORPLUG with interchangeable expanding plugs to gage simple or special bores from ⅛" to 10" dia.

UNIQUE ADVANTAGES

- Positive gaging accuracy to fraction of .0001" regardless of who operates it.
- Indicates actual size, a fixed — not passing — reading.
- Positive 2-point gaging — automatic centering.
- Shallow holes, deep holes, inside splines, open-end holes gaged easily.
- Detects ovality, back or front taper, bell mouth, barrel shape.
- Reaches to bottom of blind holes.
- Will gage work in the machine.
- A shop tool for all-day every day use.
- Portable — no wires, hoses, stands or electronic gear.

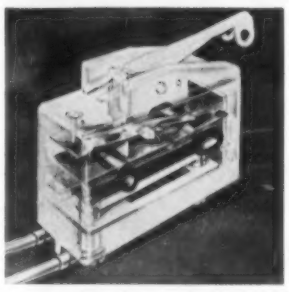
Investigate the gage used by the thousands in jet engine, guided missile, farm and road machinery, automotive transmission, household appliance and other volume-precision plants. IT MAKES PRECISION EASY . . . at machines . . . at inspection bench . . . for selective assembly. No other like it — investigate and see why.

COMTOR COMPANY
73 Farwell St.
WALTHAM 54
MASS.

GET THE FACTS — REQUEST BULLETIN 50

For more details circle **NED-301 D7** on enclosed inquiry slip

DOUBLE-POLE SWITCH
lever-actuated, normally-closed type



Mechanical and electrical functions are completely separate in this lever-actuated, double-pole single-throw, normally-closed switch. A division inside the case separates the mechanical (upper) part from the electrical (lower) part. Loss of tension and failure in the spring due to overheating and metal fatigue cannot occur. Electrical conductor is made of beryllium copper, self-cleaning contact points are heavy silver and steel parts are cadmium plated. Size is 1⅞ x 1½ x ¾-in. Made by **Tait Mfg. Co.,** Dept. NED, 500 Webster St., Dayton 1, O.

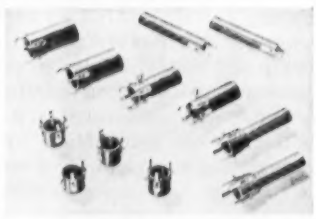
For more details circle **NED-302 D7** on enclosed inquiry slip

PRESSURE SWITCH
grounded subminiature unit

Mounted through the wall of a pressure vessel, the GPI-2000 subminiature pressure switch will make and break a 6 to 8-v dc resistive circuit carrying up to 250 ma. Bellows compression completes a signal circuit when a prescribed pressure change takes place. Switch is grounded and the circuit is completed through the pigtail. Capable of withstanding physical and environmental shocks, it is available in 50 to 500-psi range, designed to requirements. Made by **Aircraft Controls Co.,** Dept. S, 845 Main St., Stamford, Conn.

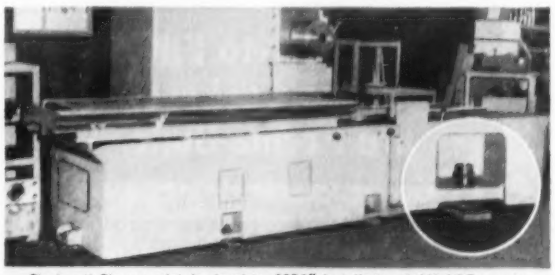
For more details circle **NED-303 D7** on enclosed inquiry slip

COIL FORMS & LUG COLLARS
for use with printed circuits



Line of printed circuit coil forms and collars is equipped with permanently staked Berg lugs to provide a mechanically strong, electrically efficient connection. Lugs can be staked to thin or heavy wall coil forms of varying diameter and can be soldered. From two to six lugs of any of three types are located at any desired angular configuration. Coil form is usually polarized to assure correct insertion in the printed circuit board. Coil forms and lug collars are available in a range of inside and outside diameters and lengths. Made by **Resinite Corp.,** Dept. NDC, 6980 N. Central Park Ave., Chicago 45, Ill.

For more details circle **NED-304 D7** on enclosed inquiry slip



Cincinnati Planer maintains level to .0005" installed on 8 AIR-LOC mounts. Leveling screws permit precision adjustment.

PERMANENT PRECISION MACHINE INSTALLATION (accurate to .0005") IS NOW POSSIBLE

Air-Loc 4-17-4

Free booklet tells the whole story. Send for your copy and free samples.

machine mounts give you:

1. Permanent precision leveling of lathes, grinders, etc., maintained to .0005".
2. Complete resistance to oil, water, etc.
3. Low initial cost.
4. Elimination of bolting or cementing machines to floors.
5. Reduced machine vibration and noise — as much as 85%.

AIR-LOC DIVISION
CLARK, CUTLER, McDERMOTT CO., FRANKLIN, MASS.

For more details circle **NED-305 D7** on enclosed inquiry slip

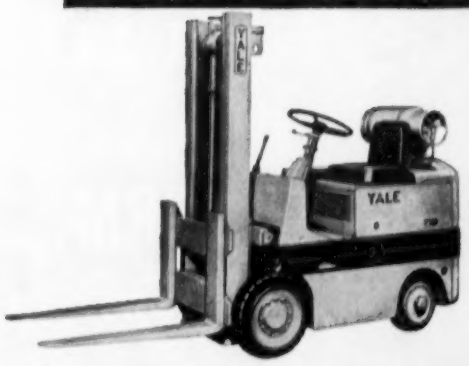
STAR PERFORMERS!

These burs are outstanding for their long life . . . economy . . . their ability to cut fast and cool. Made in two parts: cutting heads of tungsten carbide, necks and shanks of steel. S.S. WHITE CARBIDE BURS are available in a wide range of sizes and shapes for straight and right-angle handpieces. Write for Catalog DB.

THE S.S.White INDUSTRIAL DIVISION
10 East 40th Street, New York 16, N. Y.
Western Office: 1839 West Pico Blvd., Los Angeles 6, Calif.

For more details circle **NED-306 D7** on enclosed inquiry slip

YALE LP-GAS FORK TRUCKS



- No odor or fumes. Operate safely in enclosed areas, do not spoil foodstuffs or other sensitive materials.
- Approved by Underwriters' Laboratories. Eliminates detonation, lugging or choking. Sealed fuel system. Automatic fuel shut-off if engine stalls.
- Capacities: 2,000 to 10,000 lbs. Permanent or removable containers. For full facts, write The Yale & Towne Mfg. Co., Philadelphia 15, Pa., Dept. A-374B.

YALE* INDUSTRIAL LIFT TRUCKS AND HOISTS
*REG. U. S. PAT. OFF.

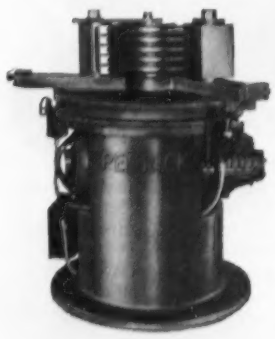
For more details circle **NED-307 D7** on enclosed inquiry slip

extra!

ALL ABOUT THE LATEST BENDING METHODS

Let Pedrick show you how the latest methods of bending pipe, tube and structural metal—on a job or production basis—can save you money.

For full information on Pedrick Production Benders, write PEDRICK TOOL AND MACHINE CO 3640 N. Lawrence St., Phila. 40, Pa. Dept. 6.

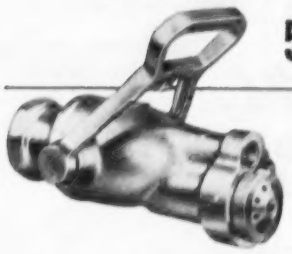


FREE "PEDRICK LINE" BULLETIN, WRITE TODAY.

PEDRICK production benders

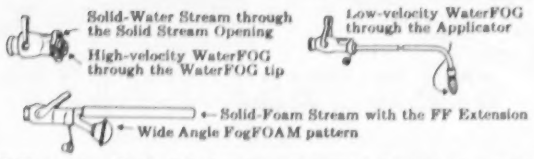
For more details circle **NED-308 D7** on enclosed inquiry slip

ROCKWOOD SG-60 WaterFOG nozzle is 5 nozzles in 1



The lightweight Rockwood SG-60 WaterFOG Nozzle *eliminates "special" or single-purpose nozzles!* It actually does the work of five nozzles to put out fires faster, safer and more economically.

HERE'S WHAT WE MEAN:



FF Extension Unit. Discharges Rockwood FOAM in a solid stream or as FogFOAM. *Bayonet Piercing Applicator.* Has a hardened steel cutting tool attached to tip, for piercing through partitions, into interiors, etc. Discharges low-velocity WaterFOG. *Long Extension Applicator.* Discharges low-velocity WaterFOG in an umbrella pattern, smothering fire without causing turbulence to flammable liquids. Write for complete, illustrated information to Rockwood Sprinkler Company, 1651 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

For more details circle NED-310 D7 on enclosed inquiry slip

with a

DI-ACRO BRAKE

The Di-Acro Brake is a six-in-one precision metal working machine simply tooled for a variety of jobs. Ten models in 6", 12", 18" and 24" widths handle up to 16 gauge mild sheet steel.

Consult the yellow pages of your phone book for the name of your nearest Di-Acro distributor or write for 16 page "Handy Guide" to Di-Acro Brakes.

di-acro PRECISION METALWORKING MACHINES *pronounced die-ack-ro*

O'NEIL-IRWIN MFG. CO.
354 Eighth Avenue • Lake City, Minnesota

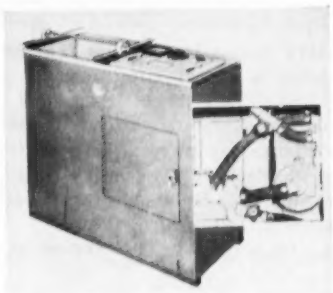
For more details circle NED-311 D7 on enclosed inquiry slip

INPUT CONTROLLER
for ovens, furnaces and dryers

Operating temperatures of all types of electrically heated equipment, including ovens, furnaces, dryers, evaporators and dehumidifiers, can be accurately controlled by the J-4A input controller. Manually set unit controls by interrupting the heating circuit at regular intervals, adjustable on a dial calibrated from 0 to 100 per cent "on" time per 60-second basic cycle. Also available are 30 and 15-second cycles. Synchronous controller motors are rated for 115 or 230 v, 25, 50 or 60 cycles. Contacts are rated at 25 amp at 115 v ac or 20 amp at 230 v ac, noninductive load. Motor cut-out switch, Bakelite housing, transparent front cover, surface mounting bracket and flush or surface mounting enclosures are optional features. Made by **Automatic Temperature Control Co.,** 5206 Pulaski Ave., Philadelphia 44, Pa.

For more details circle NED-312 D7 on enclosed inquiry slip

ELECTROPLATING UNIT
100-gal capacity portable tank



Automatic operating Jet Plater portable electroplating unit is equipped with a 100-gal capacity tank. It consists of a Sel-Rex selenium rectifier with automatic timer, stainless steel tank (which may serve as the anode) fitted with water jacket for temperature control, movable work rack which accommodates a portable plating barrel, centralized control panel with Weston ammeter and Powerstat control, filter and dripproof pump and motor. Its design permits building of larger custom units. Plating solution is agitated through a pump and perforated stainless steel tube at the bottom of the tank. Made by **Sel-Rex Corp.,** Verona Ave. & Manchester Pl., Newark 4, N. J.

For more details circle NED-313 D7 on enclosed inquiry slip

Overhead Materials Handling Equipment

Columbus McKinnon Chain Corp., Chisholm-Moore Div.—Pocket-size 14-page circular presents the CM line of hand and electric hoists and related overhead handling equipment. Basic specifications are provided on various models of the Lodestar, Comet and Meteor electric hoists, Cyclone and Blue Boy hand hoists, the CM puller and various cranes and I-beam trolleys.

For more details circle NED-314 D7 on enclosed inquiry slip

From Start to FINISH Penco Lockers are Perma-Built

Electrostatic mist spraying by a special Ransburg unit gives every Penco product a smooth, beautiful and durable enamel finish worthy of your office, plant, school or institution. Write for Catalog NE-57-1.

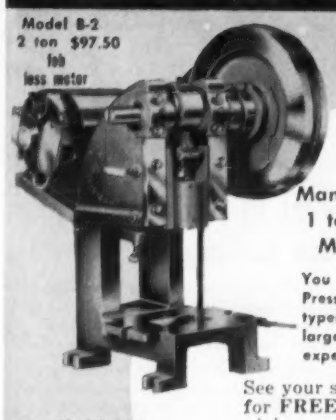
penco "Perma-Built" STEEL LOCKERS — *penco* STEEL SHELVING — *penco* STEEL CABINETS

penco STEEL LOCKERS CABINETS · SHELVING

penco METAL PRODUCTS DIVISION
ALAN WOOD STEEL COMPANY
Oregon Ave. & Swanson St. • Philadelphia 48, Penna.

For more details circle NED-315 D7 on enclosed inquiry slip

Heavy Duty Bench Type ALLEN PUNCH PRESSES



Model B-2 2 ton $97.50 fob less motor

POWERFUL DEPENDABLE ECONOMICAL

Fully Guaranteed

Many Popular Models 1 to 5 ton capacities Moderate in price

You will find Allen Punch Presses adequate for many types of work now done on larger presses at greater expense.

Model BT-2 Tilting Model $127.50 f.o.b. less motor

See your supply dealer or write for FREE Punch Press catalog giving complete information, specifications and prices on our complete line of bench type punch presses.

"The Best Machinery Dollar Value on the Market" Thousands have been Purchased by Leading Manufacturing Companies

ALVA ALLEN INDUSTRIES
Dept. NED, Clinton, Missouri

For more details circle NED-316 D7 on enclosed inquiry slip

Speed Copying! Cut Costs!

WITH P&H

WHITEPRINT COPYMATION

Cut Blueprinting Costs 50% or More

Make exact-copy whiteprints as fast as you need them—save time, work and money. With the modern P&H SPEEDMASTER, anyone can economically print and develop exact, same-size black-line and colored-line whiteprints of charts, reports, letters, drawings, or any translucent original whether written, typed, printed or photographed. SPEEDMASTER handles cut sheets or roll stock up to 44" wide in any length. Electronic drive provides instant speed changes with full stop and reverse control. Ruggedly built of jig-drilled aluminum castings.

Continuous high-volume production whiteprinters in sizes and speeds to fit every need, from **$1195** up.
Also Spee-Dee whiteprinters from **$79.50** up.

Send for informative Bulletin 56S1

P&H SALES CORP. REPRESENTING **PECK & HARVEY** MFG. CORP.
5638 N. WESTERN AVE., CHICAGO 45
Progressing with the Reproduction Industry Since 1937
MFRS. OF WHITEPRINT, BLUEPRINT & PHOTOCOPY EQUIPMENT

For more details circle NED-317 D7 on enclosed inquiry slip

For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

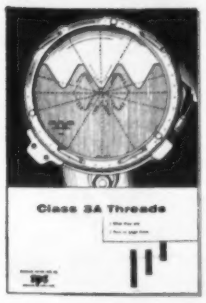
For stainless steel soldering, use RUBY'S Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

For more details circle NED-318 D7 on enclosed inquiry slip

3A threads: what they are; how to gage them—new SPS booklet tells all



Threads made to Class 3A fit are the most precise in general use in industry. But you do not always get the 3A precision you specify. Because of many different gaging techniques that yield varying results, screws with threads well outside the Class 3A tolerance limits often pass inspection.

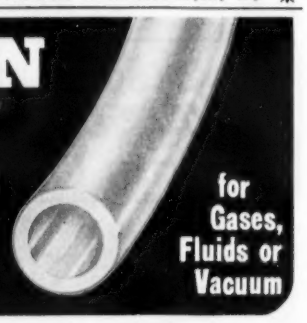
SPS has prepared a new booklet on this subject. It explains clearly what Class 3A threads are and the pros and cons involved in the widely varying gaging techniques in use today. It reviews the gaging of high and low limits of 3A threads, sampling techniques, and even the methods of gaging gages. Write for your copy today.

All standard UNBRAKO socket screw products fall within specified tolerance limits *no matter what method is used to gage them.* Leading industrial distributors carry complete stocks. Unbrako Socket Screw Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
UNBRAKO SOCKET SCREW DIVISION SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-319 D7 on enclosed inquiry slip

TYGON Flexible Plastic TUBING



for Gases, Fluids or Vacuum

For liquids, gases or semi-solids — corrosive solutions — full vacuums or pressures to 300 psi., Tygon Tubings handle the job better.

Tygon Tubing is light weight and flexible, easier to handle. It is tasteless, odorless, non-toxic and non-contaminating — safe for foods and beverages. It is resistant to acids, alkalies, oils, water and alcohol. The highly polished bore permits faster flow rates and simple flush cleaning. It may be steam sterilized.

Heavy wall Tygon is available for vacuum service. Mesh reinforced Tygon withstands pressures to 300 psi. Sizes from 1/16" i.d. to 2" i.d.

202-E PLASTICS AND SYNTHETICS DIVISION

WRITE TODAY FOR BULLETIN T-87

U. S. STONEWARE
AKRON 9, OHIO

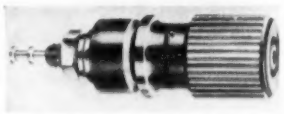
For more details circle NED-320 D7 on enclosed inquiry slip

AIR HAMMER MUFFLE cover reduces exhaust, piston noise

Muffle cover for the Thor model 25 air hammer-paving breaker reportedly reduces noise intensity up to 55 per cent. Accessory is an easily attached, thick, double jacket of soundproofing materials that zips snuggly around the tool. It effectively reduces the exhaust noise and the staccato clang of the piston hammer hitting the tappet. Made by **Thor Power Tool Co.**, State & Kane Sts., Aurora, Ill.

For more details circle NED-322 D7 on enclosed inquiry slip

FIVE-WAY BINDING POST features spring pin contact



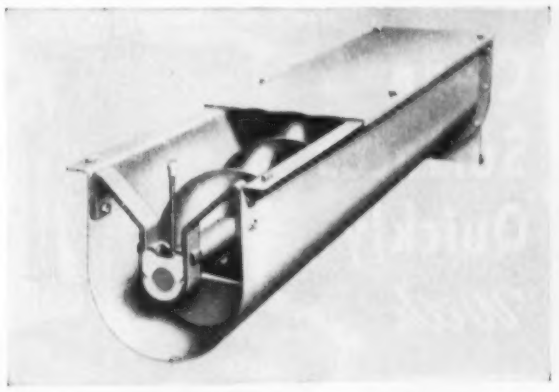
Two models of this five-way binding post provide for plug-in connection of either a 0.080-in. test prod or a standard ¾-in. banana plug. Spring pin contact assures smooth, hard-gripping spring action. Post provides for such connections as wire lead looped around shaft and clamped; wire lead inserted through hole in shaft and clamped; alligator or clip lead fastened to shaft; spade lug inserted around shaft and clamped; and either banana plug or prod plugged into jack in knurled thumb screw. Stocked in black or red, post has metal parts plated to withstand 50-hour salt spray test. Made by **Raytheon Mfg. Co.**, Dept. 6120, 100 River St., Waltham 54, Mass.

For more details circle NED-323 D7 on enclosed inquiry slip

CONTROLLED VOLUME PUMP mounts on upright 55-gal barrels

Maximum capacities from 500 milliliters per hour to 4 gph are available in this controlled volume flow metering pump for toxic or corrosive chemicals. It pumps from upright 55-gal barrels against pressures up to 100 psi. Powered by a constant speed 1/3-hp, 115-v, 60-cycle motor, it has repetitive pumping accuracy of ±1 per cent and capacities adjustable from zero to maximum. Made by **Milton Roy Co.**, Dept. NED, 1300 E. Mermaid Lane, Philadelphia 18, Pa.

For more details circle NED-324 D7 on enclosed inquiry slip



spiral conveyors and fittings

Six types of flights, in diameters ranging from 4" to 24"—bearings and hangers in a variety of styles, enabling you to meet most any operating condition. Modern methods of manufacture at Jeffrey assure maximum strength and true alignment.

Interchangeable parts in factory and distributor stocks.

Send for Catalog 851

JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

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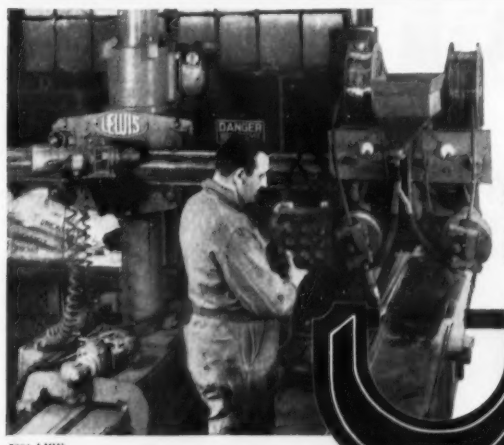

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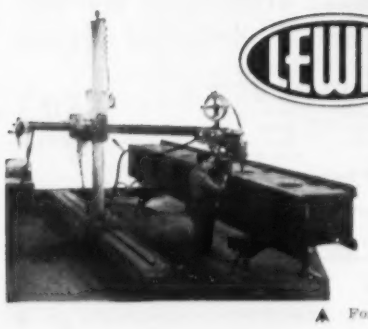
ONLY THE LEWIS "UNIVERSAL" GIVES YOU MACHINE TOOL ACCURACY FOR EVERY AUTOMATIC WELDING JOB



LEWIS

Write for Bulletin 6960 for details and prices

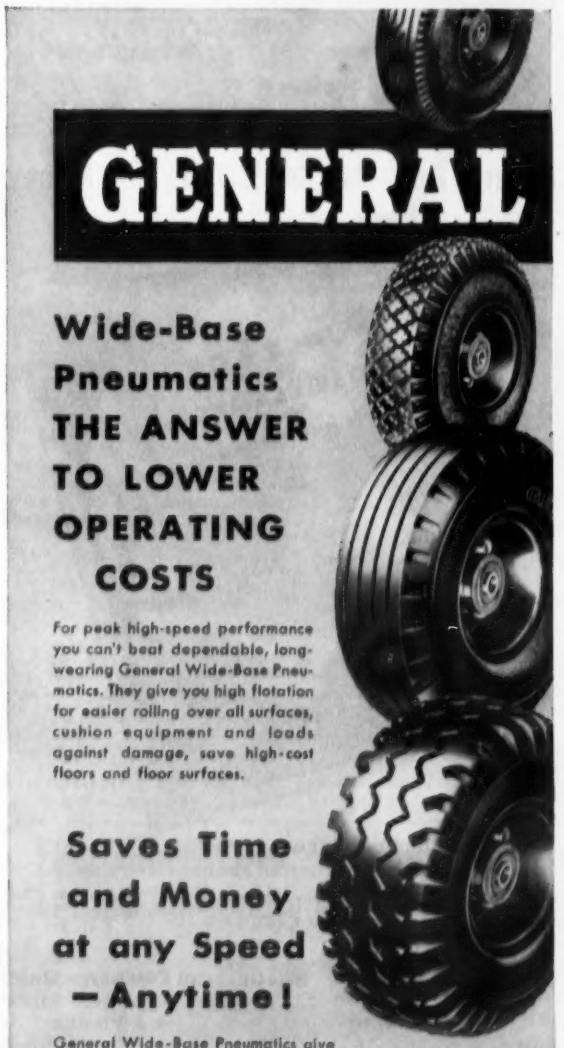
For precision welding . . . plus portability . . . none can equal the LEWIS automatic welding head manipulator. Heavy-duty design and construction . . . machined and hardened ways . . . make the "Universal" both machine tool accurate and portable.

Once a "Universal" is positioned . . . a quick, easy job . . . it operates accurately and consistently. It releases valuable production floor space ordinarily consumed by a fixed installation. In addition, it will accommodate any standard submerged arc or inert gas-shielded arc welding head.

Machine tool construction and precision . . . complete adjustability . . . and ready portability are standard features available only in the LEWIS "Universal".

THE LEWIS WELDING & ENGINEERING CORP.
WELDING DIVISION 14 INTERSTATE STREET, BEDFORD, OHIO

For more details circle NED-321 D7 on enclosed inquiry slip



GENERAL

Wide-Base Pneumatics THE ANSWER TO LOWER OPERATING COSTS

For peak high-speed performance you can't beat dependable, long-wearing General Wide-Base Pneumatics. They give you high flotation for easier rolling over all surfaces, cushion equipment and loads against damage, save high-cost floors and floor surfaces.

Saves Time and Money at any Speed —Anytime!

General Wide-Base Pneumatics give you every cost-saving advantage at every speed . . . on every job. Available separately or in assemblies of tires, tubes and wheels. Size O.D. 8" to 35"—200 to 7890 lbs. capacity for low or high speeds.

THE GENERAL TIRE

Rigid **CASTER FORKS**

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

Swivel

SEND FOR CATALOG, DEPT. 4

THE GENERAL TIRE & RUBBER CO.
AKRON, OHIO

For more details circle NED-326 D7 on enclosed inquiry slip

Clean Surfaces Quickly *With*

Pangborn Blast Cleaning Machine

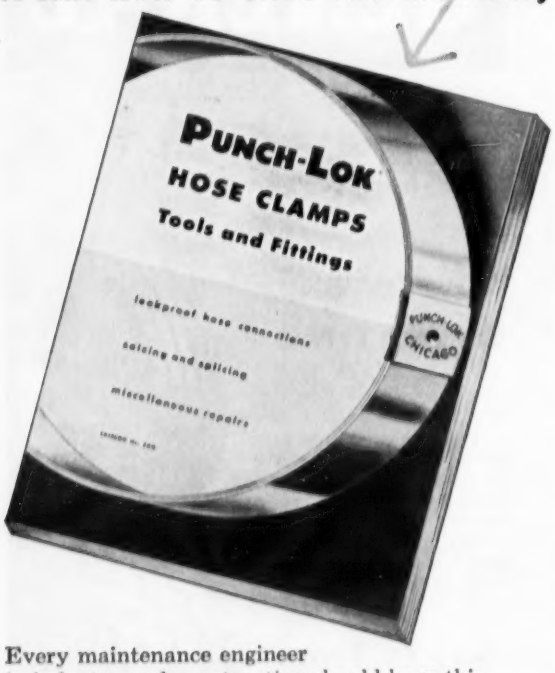
Designed to deliver fast, economical blast cleaning, Pangborn Blast Cleaning Machines can be used for efficient maintenance of bridges, tanks, buildings, hulls, structural metal, sheets and plates. Removes scale, rust, paint and dirt; leaves "toothed" surface ready for painting. Stationary or portable types. For details, write to: PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

Pangborn
BLAST CLEANS CHEAPER

For more details circle NED-327 D7 on enclosed inquiry slip

Write for this FREE New 12-page Data Book

It tells HOW TO SAVE Time and Money

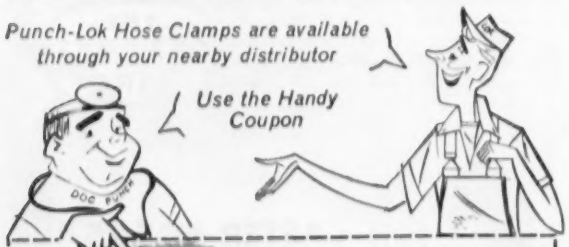


Every maintenance engineer in industry and construction should have this complete compilation of data on the application and use of Punch-Lok Hose Clamps . . . the perfect clamp for . . .

Pneumatic Tool Hose **Suction and Discharge Hose**
Welding Hose **Seizing Wire Rope Ends**
Mending Split Posts, Beams, and Planks
Splicing Welding Cable **Hundreds of Other Jobs**

Punch-Lok Hose Clamps are available through your nearby distributor

Use the Handy Coupon



PUNCH-LOK Company 6789 Dept. A 321 N. Justine St. Chicago 7, Illinois

Please send me a copy of your new 12-page data book.

Individual_____ Title_____

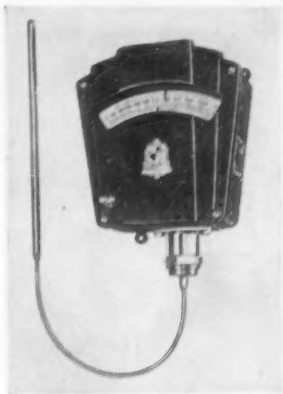
Company_____

Street_____

City_____ Zone____ State_____

For more details circle NED-328 D7 on enclosed inquiry slip

HEAT LIMIT CONTROL
protects equipment, work in process

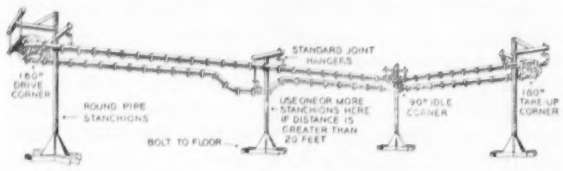


Added to line of mercury thermal controls is model HL 15-10 high-temperature limit control which will cut off heat supply if predetermined scale temperature is exceeded. Thus, equipment or work in process is protected from overheating. Calibrated scale shows bulb temperature at all times, providing visual proof of operation. Snap-acting switch in control circuit is manually reset. Normally-closed second switch, in series with control switch, will open only if temperature should drop to below lowest expected ambient temperature. Selected heat limit is easily set at any point on scale by turning setting shaft with screwdriver. Scale and element ranges available are 0-900° and 0-1100° F. Made by **Partlow Corp.**, 6 Campion Rd., New Hartford, N. Y.

For more details circle NED-329 D7 on enclosed inquiry slip

OVERHEAD CONVEYOR SUPPORTS
pipe stanchions are floor mounted

Installation of overhead cable conveyors in plants where roofs are weak, too high, or cluttered with other equipment is facilitated with standardized floor-



mounted supports. Hollow pipe stanchions are used with standard Tipp brackets and adapters to make up the supports, and all parts are interchangeable with existing Tipp equipment. Supports are lag bolted to floor or simply placed on floor, then sway-braced to plant walls. Complete packaged cable conveyor systems, preassembled in factory and shipped knocked down, are made feasible by these supports. Use of bolts assures easy assembly and alteration. Made by **Tipp Mfg. Co.**, Tipp City 30, O.

For more details circle NED-330 D7 on enclosed inquiry slip

Hack Saw Blades

Heller Tool Co.—Line of "job tempered" hand and power hack saw blades, certified by American Standards Testing Bureau to have uniform teeth, set and temper, is described in 8-page catalog. Specification charts list all standard industrial power saw blade lengths, widths, thicknesses and tooth spacings and hand blades with 14 to 32 teeth per inch.

For more details circle NED-331 D7 on enclosed inquiry slip

BOXES
SKID
PALLET
TRUCK

Stack'em Dump'em • Roll'em

Ironbound **IRONBOUND**
55 Hoffman Place • Hillside, N. J.

For more details circle NED-332 D7 on enclosed inquiry slip

ADJUSTABLE FLOW REGULATOR

Designed for Panel Mounting

Fully adjustable from 0.5 GPM to 20 GPM. Maintains a constant rate of flow regardless of work resistance or pressure fluctuations.

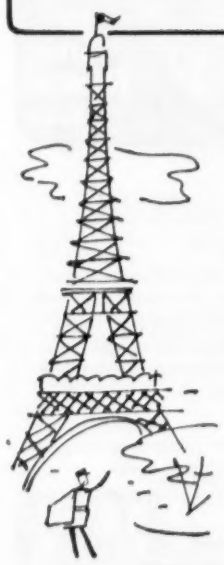
Also SOLENOID VALVES, MICRONIC LINE FILTERS and CHECK VALVES.

Write for latest illustrated bulletin H

WATERMAN ENGINEERING COMPANY
725 CUSTER AVENUE EVANSTON, ILLINOIS

For more details circle NED-333 D7 on enclosed inquiry slip

Nous comprenons



We understand how mechanical timing problems can be solved—and in a hurry! Rhodes is ready to assist you in designing and developing a MARK-TIME timing device to perform virtually any timing function—then produce short or long runs from stock components. Many combinations of electrical circuits, audible signals or time delay action can be easily incorporated into your product—and the manufacturers of MARK-TIME will be glad to tell you how.

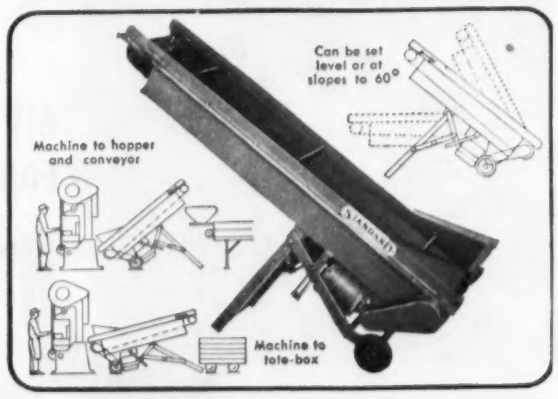
Get full details now—Contact Rhodes today!

Representatives in principal cities in the U.S.
Manufactured and Sold in Canada by: Sperry Gyroscope Ottawa Ltd., Ottawa, Ontario, Canada

M. H. RHODES, INC.
79 BARTHOLOMEW AVE.
HARTFORD, CONNECTICUT

For more details circle NED-334 D7 on enclosed inquiry slip

Ask Standard



how PARTSBELT eliminates manual handling of small parts and pieces

- handles stampings, die-castings, plastic and other parts and pieces
- carries pieces direct from presses and other machines to tote boxes, bins, or conveyors
- balanced design for easy maneuvering
- one man operation and adjustment
- sturdy box frame construction; 3 sizes, electric motor powered

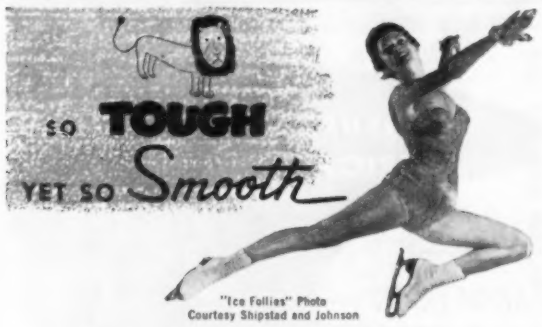
50 years of conveyor experience

Send for PARTSBELT bulletin; address Dept K-4

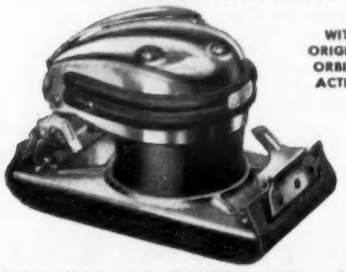
Standard Conveyor Company
North St. Paul 9, Minn.
Canada: International Equipment Co. Ltd. • Montreal Toronto • Hamilton Edmonton • Vancouver

Standard GRAVITY & POWER CONVEYORS

For more details circle NED-335 D7 on enclosed inquiry slip



National Sanders are built for **TOUGH** operation on production lines. As they are vibrationless and easy to operate, they produce the *Smooth* surface so essential to a fine finish. These lightweight, powerful sanders can be used on wood, metal, plastic, felt, stone, and other surfaces. National makes a complete line of electric or air driven sanders with either straight-line or orbital action. The popular model 400 is shown below. Write for NEW folder today!



WITH ORIGINAL ORBITAL ACTION

NS

National Sanders

NATIONAL AIR SANDER, INC., ROCKFORD, ILLINOIS

For more details circle NED-336 D7 on enclosed inquiry slip

RAWSON® COUPLING

SAVINGS—on initial and replacement equipment costs through:—

Normal torque standard squirrel cage motors instead of special high torque motors

Smaller motors since same HP requirements are used for starting as for running

Elimination of expensive electrical starting equipment

Reduced electrical starting surges and peak demands

Standard applications to 1000 HP

Better motor efficiency, better power factor

RAWSON COUPLINGS

O. S. WALKER COMPANY, INC.

200 Rockdale St. • Worcester, Mass.

For more details circle NED-337 D7 on enclosed inquiry slip

NEW SIMPLICITY UNIT GREATLY SPEEDS WASHING OF SMALL PRODUCTION PARTS

Although it will not damage even delicate threads and flanges, this new Simplicity Parts Washer forces washing solution into every opening of machined parts . . . even blind drillings and slots. Combines production speed with hand-washed thoroughness.

Serves as a quencher for heat-treated pieces; for degreasing metal stampings, as well. For further facts write to:

187

Ask for Bulletin No. 104

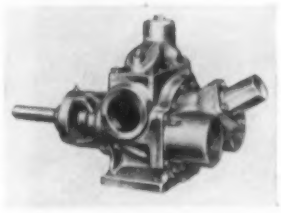
Simplicity TRADE MARK REGISTERED

ENGINEERING COMPANY • DURAND 15, MICH.

FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

For more details circle NED-338 D7 on enclosed inquiry slip

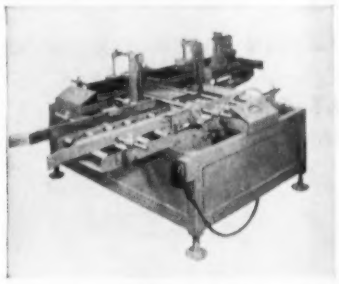
SELF-LUBRICATING PUMP for dry, aromatic liquids



Self-lubricating, friction-free bearings incorporated in the A type positive displacement rotary pump prevent lubricants from contaminating the dry, aromatic liquids or other petroleum products handled. Radial thrust ball bearings and outboard thrust collars offer protection against power take-off thrust and preloads. Mechanical seals prevent leaking stuffing boxes. Design also eliminates priming and air problems. Pumps are offered in 25 to 300-gpm capacities. Made by **Granberg Corp.**, 1301 67th St., Oakland 8, Calif.

For more details circle NED-339 D7 on enclosed inquiry slip

CASE IMPRINTER prints on all four sides

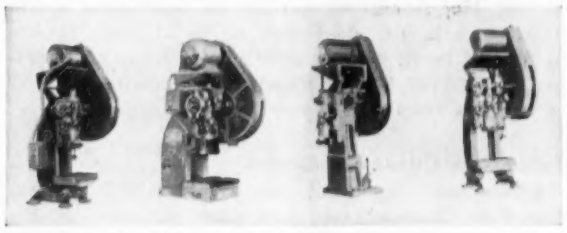


Name and contents are printed on all four sides of corrugated shipping containers by this automatic case imprinter. It also prints a product serial number with no manual positioning required, regardless of case size. From one to eight lines in 11-in. high area can be printed. Type is from ¼ to 1½ in. high. Serial numbering device prints up to six 1½-in. high digits. Made by **J. L. Ferguson Co.**, 34 Republic Ave., Joliet, Ill.

For more details circle NED-340 D7 on enclosed inquiry slip

BENCH PRESSES line includes 4, 7 and 10-ton models

A 4-ton adjustable bed and horning press, 4 and 7-ton inclinable presses and a 10-ton fixed bed press comprise this line of bench presses for the electrical and



light metalworking industries. Presses have extra long slides, renewable ball seats and bronze ball cap bushings, cast Meehanite frames, split-bronze bearings and extra-long, removable V-type gibbing. They can be equipped with the Bliss rolling key clutch, or an air friction clutch. Made by **E. W. Bliss Co.**, 1376 Raff Rd. S. W., Canton 10, O.

For more details circle NED-341 D7 on enclosed inquiry slip

NEW pocket size thickness gauge

ELCOMETER

Measures Non-Magnetic Coatings with ± 5% ± .0001" Accuracy

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other non-magnetic coatings quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle locking device assures correct reading every time. Complete with tough leather case containing inner pocket for test strips. Weighs only 6 oz. Completely self-contained. Retail price: $68.00, F. O. B. Cleveland.

FERRO

WRITE FOR ILLUSTRATED FOLDER

FERRO CORPORATION

4181 East 56th St. • Cleveland 5, Ohio

For more details circle NED-342 D7 on enclosed inquiry slip

How to cut *runaway* crane rail budgets

You'll want to read this booklet. It's full of information on how to reduce crane rail maintenance budgets. In it you'll find full descriptions of a special method of rail-joint assembly, "floating rail" fastenings and three USS Special Crane Rail Sections which are designed for longest life under heavy wheel loads. Just write to United States Steel, Room 5560, 525 William Penn Place, Pittsburgh 30, Pa. Do it today.

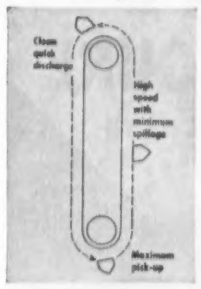
USS SPECIAL CRANE RAIL SECTIONS

USS

UNITED STATES STEEL

For more details circle NED-343 D7 on enclosed inquiry slip

There's greater strength, greater capacity in



LINK-BELT "HS" elevator buckets

Link-Belt "High-Speed" buckets with reinforced corners and end plates wrapped around body assure strength at points of greatest stress. Low front lip provides maximum pickup—high end plates minimize spillage. Primarily used for handling fine, free-flowing, granular materials. For complete features and selection data, send for Folder 2548-A.

LINK-BELT

"HS" ELEVATOR BUCKETS

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 15); Australia, Marrickville (Sydney), N.S.W.; South Africa, Springs. Representatives Throughout the World. 14,497

For more details circle NED-344 D7 on enclosed inquiry slip

For Short Cuts and Savings in Engineering Drawing Reproduction

Kodagraph Reproduction Materials eliminate tedious retracing . . . produce better shop prints . . . simplify print production. Whether you make your own prints or use a blueprint, it will pay you to know them.

Kodagraph Reproduction Negative Paper gives you positive photographic intermediates directly from blueprints and other negatives.

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Kodagraph Projection Papers give you highest quality enlargements from microfilm or other reduced-scale negatives.

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Kodagraph Reproduction Materials

EASTMAN KODAK COMPANY
Graphic Reproduction Division
Rochester 4, N. Y.

Kodak

For more details circle NED-345 D7 on enclosed inquiry slip

Sintz crt* threaded rod gives you these important time-money saving features.

• Quality—Made from #1010 CISI cold rolled steel • Smoother, More Uniform Threads • Greater Strength • Low Cost.

Try SINTZ once and you'll be convinced.

*Cold Rolled Threaded—Bends Cold

ORDER FROM YOUR MILL SUPPLY HOUSE—INDUSTRIAL JOBBER OR DIRECT FROM . . .

CLAUDE SINTZ INC.
1928 STANLEY AVENUE
DETROIT 8, MICHIGAN

STUDS • FORMED RODS • PIPE PLUGS

For more details circle NED-346 D7 on enclosed inquiry slip

The powerful all-purpose Cadillac Quick-Vac makes fast work of cleaning jobs from floor to ceiling. It cleans floors (bare or carpeted) . . . picks up water . . . rids machinery and equipment of damaging dust and dirt.

Vacuums · Blows · Air Sweeps · Sprays

EXCLUSIVE 2-SPEED MOTOR (to fit job requirements)

Two-speed power unit can be instantly demounted for use as a hand-type blower-suction cleaner.

EXCLUSIVE 3-IN-1 HOSE COUPLER* Only one swivel connector is required to connect the hose to the dirt container, or to the power unit inlet or outlet. Saves you time, trouble, money.

DOZENS OF ATTACHMENTS (optional equipment) are available for handling hundreds of cleaning, maintenance, and production jobs.

The Clements-Cadillac line also includes:
• A 2-speed portable blower-suction cleaner and three other job-rated models
• Hot and cold air blower
• Furnace blowers
• Gas blowtorch

See your nearest dealer in Industrial, Automotive, or Janitors' Supplies—or write us direct.

Several territories are available to verified factory representatives.

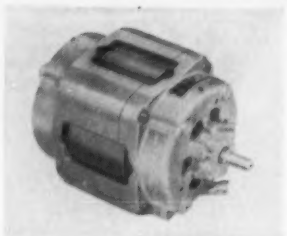
*Pat. applied for

Industrial Vacuum Cleaner Division
SINCE 1910 CLEMENTS MFG. CO., 6627 S. Narragansett Ave., Chicago 38, Ill.

World's largest producer of blower-suction cleaners . . . specialists in vacuum cleaning equipment for home, business and industry

For more details circle NED-347 D7 on enclosed inquiry slip

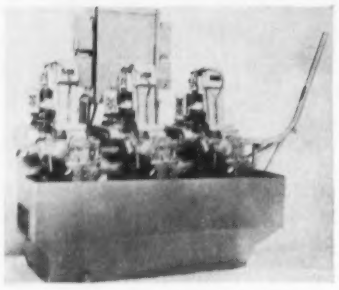
MINIATURIZED INDUCTION MOTOR in 1/300 to 1/30-hp range



Quiet operation, low level magnetic hum, reduced external magnetic field, low temperature rise and minimum cogging and hunting are among operational advantages of model 9200 miniaturized induction motor. This model is made in permanent split capacitor, single-phase, 50/60 cycle induction, torque and synchronous types and is used in tape recorders, communication equipment, office machines, turn tables, aircraft instruments and electronic device. It is also available in two or three-phase designs. Motors can be supplied with self-aligning or rigid porous bronze sleeve bearings. Horsepowers range from 1/300 to 1/30. Frame accommodates six types of mountings. Made by **Howard Industries, Inc.**, Dept. I. M., 1760 State St., Racine, Wis.

For more details circle NED-348 D7 on enclosed inquiry slip

CENTERLESS BELT GRINDER for metal, glass and plastic use



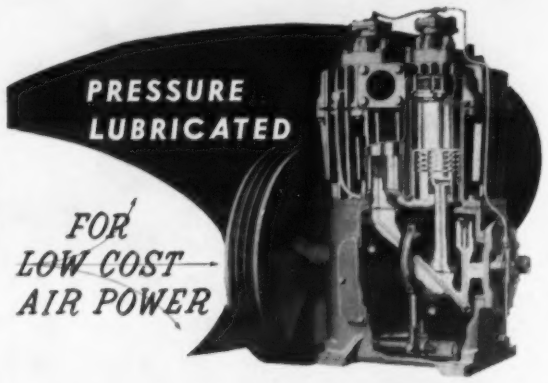
Typical grinding sequence of the model L4-3 centerless belt grinder, using progressively finer-grit abrasive belts, is rough grind, finish grind and fine polish. Machine is also available with four grinding heads, each of which has its own control panel and micro-stop size control. Volume production on ferrous, nonferrous, plastic, glass and other materials is possible with the wet or dry belt machine. Continuous, adjustable speed feed-through permits use of gravity feed hopper for small cylindrical parts. Stock from 3/3 to 2¾ in. diameter of any length can be ground to tolerances within 0.001-in. or less at feed rates up to 35 fpm. Speeds of the 4 x 54-in. belts is 5000 sfpm. Made by **Engelberg Huller Co.**, 831 W. Fayette St., Syracuse 4, N. Y.

For more details circle NED-349 D7 on enclosed inquiry slip

Table Top Conveyor Chains

Chain Belt Co.—Steel and nylon TableTop, steel PlateTop, Crescent top, and case conveyor chains are pictured and described in 24-page bulletin 56-60. Sprockets for TableTop chain are shown and listed, and a conveyor chain engineering and application data section is featured. Chains are used in dairies, canneries, food and beverage plants, light to moderate manufacturing plants and chemical and petroleum industries.

For more details circle NED-350 D7 on enclosed inquiry slip



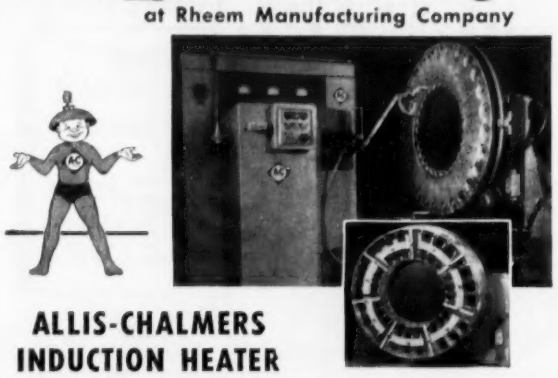
Longer compressor life, greater freedom from maintenance are provided by this compressor with Safe-Q-Lube, a positive pressure oiling system exclusive with Quincy compressors. Crankshaft and connecting rods are rifle drilled to carry oil to connecting rod bearings and piston pins. Timken main roller bearings are spray lubricated. Safe-Q-Lube system also unloads compressor automatically for starting, stopping or in case of low oil pressure. Available on most models. Nationwide authorized service. Industrial compressors from 1 to 90 CFM. Write Dept. NED-53 for literature today.

Quincy COMPRESSORS

QUINCY COMPRESSOR CO., QUINCY, ILLINOIS

For more details circle NED-352 D7 on enclosed inquiry slip

Jet Speed Brazing
at Rheem Manufacturing Company



ALLIS-CHALMERS INDUCTION HEATER
produces FACSIMILE Weldments in Seconds

the JOB — *Brazing inlet assembly vanes for J-57 engines.*

An Allis-Chalmers 25-kw induction heater and an *A-C designed work fixture* give Rheem a streamlined brazing set-up. Even in the face of stringent precision requirements, Rheem is brazing at high speed, with each weldment as smooth and perfect as the next.

If you braze, solder, harden, anneal or heat, it will pay you to get all the facts on Allis-Chalmers induction heaters. See your nearby Allis-Chalmers representative or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS A-C A-5308

For more details circle NED-353 D7 on enclosed inquiry slip

NEW Cyclo-trell Dust Collector

Here are a few brief facts on Research's new multiple tube mechanical collector. • Collection efficiencies are higher, for a given pressure drop, than other conventional multiple tube collectors. • Gas flow per tube is higher than conventional units. This means fewer tubes per collector and lower total cost for a given capacity.

Higher Collection Efficiency

After testing many types and curvatures of vanes, Research found that this new aerodynamic design resulted in less turbulence, greater centrifugal force and higher collection efficiencies.

Greater Gas Handling Capacity

To develop a higher gas flow capacity than other multiple tube collectors, Research's engineers developed the following design features:

First, by using a 10" diameter inlet tube, instead of the conventional 9" tube, the flow of incoming gas was increased. The next step was to straighten the gas flow as it entered the outlet tube, since a spiraling gas stream creates more resistance than a straight through flow. In the Cyclo-trell this spiral is eliminated, and energy is recovered in the outlet tube by the Outlet Recovery Vanes. By positioning these vanes below the tube, rather than inside the tube, resistance has been further reduced.

This combination of features means greater gas flow per tube, fewer tubes per collector and a lower total cost for a given capacity and efficiency.

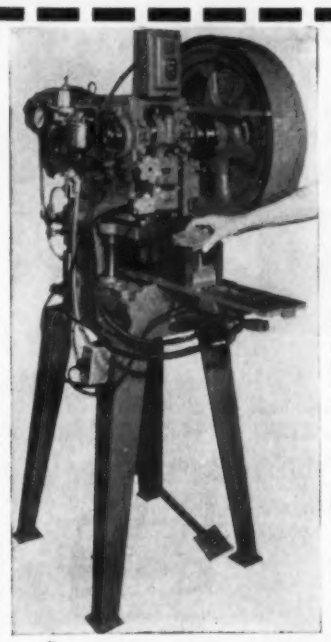
Bulletin M gives complete details on design features, efficiency, capacity and detailed dimensional drawings. Write for your copy today.

Research-Cottrell, Inc.

Main Office and Plant: Bound Brook, N. J. • 405 Lexington Ave., New York 17, N. Y. • Grant Building, Pittsburgh 19, Pa. • 228 North La Salle St., Chicago 1, Ill. • 111 Sutter Bldg., San Francisco 4, Cal.

RC 170

For more details circle NED-351 D7 on enclosed inquiry slip



AUTOMATIC
OR
SEMI-AUTOMATIC
NAME-PLATE STAMPING
including
SERIAL NUMBERING

Only ACROMARK has developed the art of marking name-plates with required data so efficiently as to fit your line of AUTOMATION.

The ACROMARK Model 2A Name Plate Press is a power driven magazine feeding machine with air-feed and Consecutive Numbering.

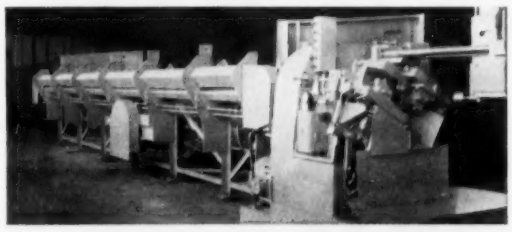
Write for "5 Ways to Stamp Name Plates" and Prices.

ACROMARK
THE ACROMARK COMPANY
7-11 MORRELL ST., ELIZABETH, NEW JERSEY

For more details circle NED-354 D7 on enclosed inquiry slip

GO MODERN

"Do it yourself" is sometimes rough,
But it keeps the lady trim and lean—
Provided she works hard enough
With a rusty cutting-off machine.



The chances are a woman would put on weight if she were operating the modern automatic Cutting-off Machine and Automatic Stock Feeder. You simply fill the feeder—with random lengths of tubing with diameters up to 8", or bar stock. Then you push the button and take a coffee-break. The operation is entirely automatic from then on.

This machine is fast—accurate—economical.

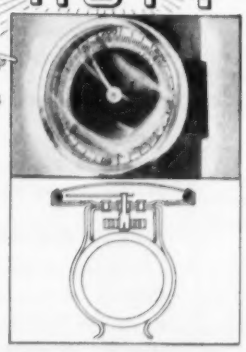
Write for catalog and full information.

MODERN MACHINE TOOL CO.
2005 LOSEY AVENUE
Jackson, Michigan

For more details circle NED-355 D7 on enclosed inquiry slip

PIPING HOT?

NEW PANDUX Pipe Thermometer



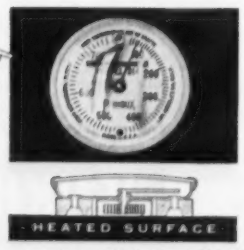
OBTAINS TEMPERATURE FAST WITH NO FUSS

NOW — no longer any need to disturb operations to learn pipe temperatures . . . Get temperatures quickly and accurately with the new Pandux Pipe Surface Thermometer. Fastens quickly by spring clip to pipe or tubing. Calibrated bimetal element protected by copper cup. Three models for ½" to 2" pipe. Two ranges: -50°F. to 250°F., and from 70°F. to 370°F.

Priced at $6.75 FOB LOS ANGELES

Specify range and pipe size.

ALSO PANDUX Hi-Heat Surface Thermometer



HUNDREDS OF PRACTICAL INDUSTRIAL USES

Fast, accurate temperature check from 50°F. to 750°F. for all hot surfaces, flat or rounded. Widely used for hot plates, platens, dies, molds, ovens, furnaces and many other industrial applications. Thermometer is affixed to surface by two Alnico magnets.

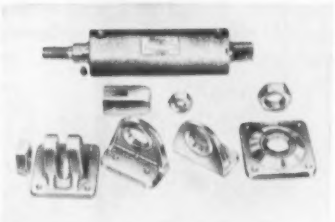
FOB LOS ANGELES $6.75

Your order will be filled through your nearest dealer. Write Dept. ND47

PACIFIC TRANSDUCER CORP.
11836 West Pico Blvd.—Los Angeles 64, California

For more details circle NED-356 D7 on enclosed inquiry slip

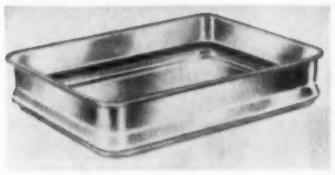
AIR OR HYDRAULIC CYLINDERS
1½ and 4-in. bore sizes offered



Compact Economair air or hydraulic cylinders in bore sizes of 1½ and 4 in. have been added to the original line consisting of 1⅛, 2 and 3-in. sizes. Designed for 200-psi service, cylinders feature internal feed-ring locking of heads to cylinder barrels, eliminating bulky head castings. Barrels are of seamless brass tube; rods are polished stainless steel; and heads and pistons are aluminum. Easily replaced industrial O-ring seals are used throughout. Standard cushion and noncushion models are offered. Flange, clevis or L-type mounting brackets are interchangeable. Made by **Modernair Corp.**, Dept. NED, 400 Preda St., San Leandro, Calif.

For more details circle NED-357 D7 on enclosed inquiry slip

SEAMLESS TOTE PAN
bottom ridge allows stacking



Raised ridge around the bottom enables these Wear-Ever seamless aluminum tote pans to be stacked easily, full or empty. It also adds to pan's strength. Pans have a sanitary open bead and easy-to-clean rounded corners. They measure 20-3/16 x 15¼ x 4¼ in. Made by **Aluminum Cooking Utensil Co.**, H & I Div., Dept. NED-1, Wear-Ever Bldg., New Kensington, Pa.

For more details circle NED-358 D7 on enclosed inquiry slip

SIDE-LOADING CARTS
hold up to 500 lb of chips, turnings

Chip pans of automatic screw machines, lathes and grinders can be emptied into model 43 and 44 side-loading chip carts. Permanently mounted side handles permit three-position roll-over for dumping up to 500-lb loads of chips and turnings. Carts are mounted on four 5-in. ball bearing, hard rubber swivel casters. Capacities of models 43 and 44 are 6.9 and 8.7 cu ft, respectively. Both are built of 12-gage welded steel, and have reinforced lips and handles which fit sockets at either end. Drain racks and drain plugs can be specified. Stainless steel or other adaptations are obtainable. Made by **Coolant Equipment Corp.**, Dept. D, S. Main St., Verona, Wis.

For more details circle NED-359 D7 on enclosed inquiry slip

Cut Maintenance $600
yearly per unit with
WORLD Hand Dryers

Best By Test!
Factory Guaranteed!

THOUGHTFUL BUYERS USE WORLD!
Marshall Field & Co.
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Chrysler Corp.
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Each high speed WORLD Hand Dryer can save up to $600 per year on paper and maintenance . . . dry hands fast as towels . . . keep washroom clean and sanitary.

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Gentlemen: Without obligation send me copies of letters from users, also folder of facts including cost-saving figures and full details on your FREE-TRIAL offer.

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Firm name _____
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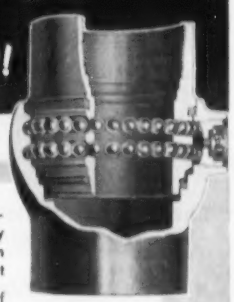
SWING YOUR LIQUIDS INTO LINE

opw swing joints
SWING EASY!
FLOW EASY!



BRONZE • STEEL • ALUMINUM • MONEL

Full Unrestricted Flow • Effortless Movement • Greater Load Carrying Capacity • "O" Ring Sealed Contamination Free Operation • Perfect Alignment

Millions of gallons of all types of liquids are moved daily in flow lines where perfectly sealed, rotating OPW Swing Joints provide an almost limitless range of flexible operations. Join other users of OPW Swing Joints. You can also realize economies in your liquid products handling.

FREE CATALOG F-B provides engineering data, sizes, styles, recommendations and prices.

JORDAN CORPORATION
INDUSTRIAL SALES DIVISION OF OPW CORP.
6013 Wiehe Road
Cincinnati 13, Ohio
ELmhurst 1-1352

For more details circle NED-361 D7 on enclosed inquiry slip

WANT THE
Handiest Adhesive
FOR YOUR SHOP?

Stick with the one that has—

—The Bond-Ability
to solve practically *any* industrial problem — no matter what materials you have to join.

—The Strength of Ten Men
to give you permanently satisfactory jobs—resists a pull of up to 1,500 pounds per square inch.

—The Easy Use
that makes child's play of even the toughest bonding work — saves you time and effort.

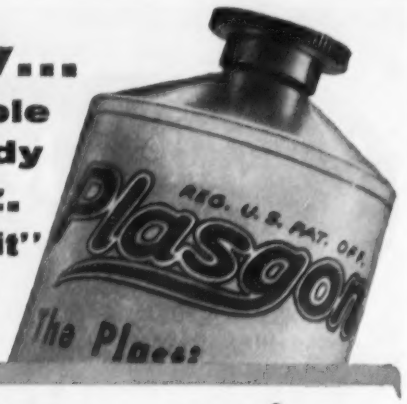
AVAILABLE from industrial jobbers or mill supply houses everywhere or write: Goodyear, Chemical Division, Coatings Dept., Akron 16, Ohio, for full information.

Pliobond
BY GOODYEAR
"BONDS ANYTHING TO ANYTHING"

Pliobond—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-362 D7 on enclosed inquiry slip

now... available in handy 2-oz. "tool kit" size



The perfect sealer for every type joint

- For fuel line joints
- All threaded and flanged connections
- Emergency gaskets

PLASGON® quickly forms a tight seal. Easily applied right from the tube. Impervious to oil, gasoline, kerosene, water, steam, glycol — resists vibration . . . withstands heat to 350°F. A shock-resistant adhesive for porous and non-porous materials. Write for sample. Specify color: black or white.

Sold in 2 oz. and 6 oz. tubes, quarts and gallons

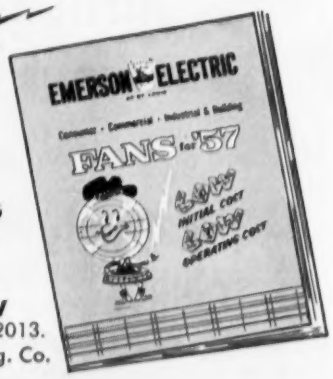
Samuel Cabot

SAMUEL CABOT INC. 432 Oliver Bldg., Boston 9, Mass.

For more details circle NED-363 D7 on enclosed inquiry slip

Here's EMERSON-ELECTRIC's big fan line for 1957

featuring
✓ LOW INITIAL COST
✓ LOW OPERATING COST
on Industrial, Commercial and Building Fans



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The Emerson Electric Mfg. Co.
St. Louis 21, Missouri

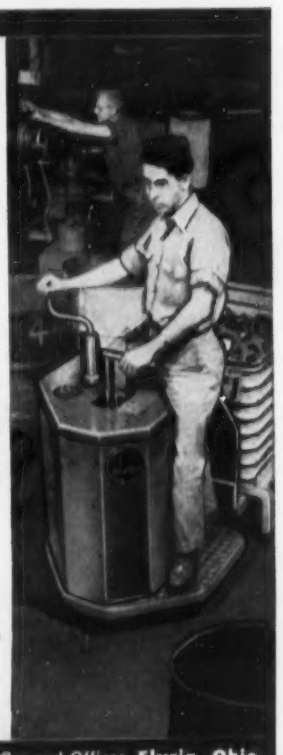
EMERSON ELECTRIC
OF ST. LOUIS Since 1890

For more details circle NED-364 D7 on enclosed inquiry slip

POWER TRUCK WORKS IN 3 FOOT AISLES!
THE COLSON HANDLER

- Lifts . . . transports 4000 lb. loads
- Operates safely on low capacity floors
- Carries 1200 lb. payload on a 2500 lb. elevator
- Climbs 10% grades
- Weight only 1000-1100 lbs.
- Engine powered, rider type
- Colsomatic All Hydraulic Drive eliminates clutch transmission, also friction brake

L-P GAS IS NOW AVAILABLE TO MINIMIZE FUMES
Write for catalog today or call a COLSON specialist listed in the yellow pages of your phone book.



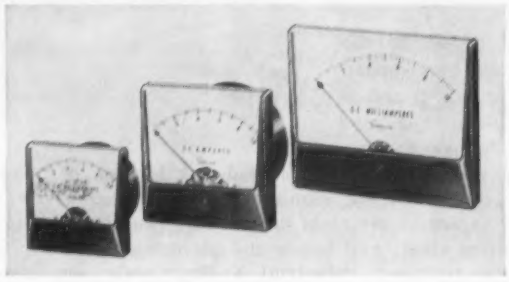
Colson®

The Colson Corporation • General Offices, **Elyria, Ohio**
Factories in Elyria, Boston, Toronto

For more details circle NED-365 D7 on enclosed inquiry slip

PANEL INSTRUMENTS in 2½, 3½ and 4½-in. sizes

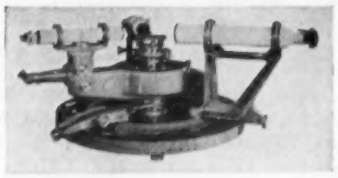
Open face design and long scale lengths of Wide-Vue line of rectangular panel instruments permit wide-angle readability. The 2½-in. size has the same scale



length as a conventional 3½-in. instrument. Available in the standard magnet or self-shielded core magnet meter movements, instruments are custom-built in 2½, 3½ and 4½-in. models with any practical alternating or direct current range. Plastic cover can be black or colored. Special scales in customer's style can also be supplied by **Simpson Electric Co.**, 5201 W. Kinzie St., Chicago 44, Ill.

For more details circle NED-366 D7 on enclosed inquiry slip

SPECTROMETER checks angles and circular spacing



Precise angles of prism faces, gage block combinations and instrument assemblies can be tested to 0.1-second by direct reading of the Guild-Watts spectrometer. One accurately divided circle is used to read both table and telescope positions. Work piece mounted on the table and the telescope can be rotated independently of each other, and with or without the circle. Two telescopes permit any suitable position to be selected. Both have micrometers at the eyepiece ends with 90-degree rotation for horizontal to vertical measurement. A collimator can be set to any desired position around the ring on the base. An auto-collimating eyepiece for the telescope is available. Available from **Engis Equipment Co.**, Dept. RR10, 431 S. Dearborn St., Chicago 5, Ill.

For more details circle NED-367 D7 on enclosed inquiry slip

Mechanical Spring Design

Revised 84-page "Handbook of Mechanical Spring Design" is a practical guide for the engineer faced with designing a specific spring. Fundamental formulas for stress and deflection are provided for compression, extension and torsion helical springs; cantilever and elliptical flat springs; power springs, both motor and hairspring; spring washers; and snap rings. Write on letterhead to K. S. Putnam, Associated Spring Corp., Bristol, Conn.

For more details circle NED-368 D7 on enclosed inquiry slip

LOW COST VIBRATORS GUARANTEE STEADY MATERIAL FLOW WITHOUT BIN DAMAGE.

Powerful hammer-like blows of Cleveland Air Vibrators prevent arching and plugging in bins, hoppers and chutes.

RC electric vibrators are silent. Built on the rotating weight principle, they are no noisier than an electric motor.

Portable LSRR vibrators have male wedge-type mounting brackets which fit the female bracket on covered hopper railroad cars. We will be happy to furnish you a catalog of our complete vibrator line.

Air or Electric
Silent or Standard
Portable or Permanent

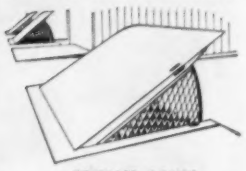
THE CLEVELAND VIBRATOR CO.
2744 Clinton Avenue — Cleveland 13, Ohio.

For more details circle NED-369 D7 on enclosed inquiry slip

LOADING DOCK PROBLEMS?

3 easy ways to solve them — and most economically, too!

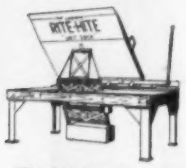
RITE • HITE mechanical loading ramps



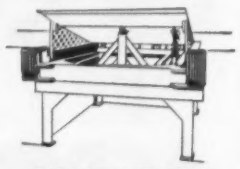
RECESSED RAMPS
Two standard, 60" x 60" and 72" x 72". Two flush-type, 72" x 72" and 96" x 72".

10-ton capacity

Practically no maintenance! Rite-Hite *precision counterbalanced* design eliminates troublesome cylinders, pumps, motors, starters, piping, valves, wiring, gears, cables. Rite-Hites are not affected by dirt, debris, extreme heat or cold. Easy to install—furnished complete, no "extras" to buy. All-welded heavy steel construction. You can be sure, when it's a Rite-Hite, it's right. Get full details—write Dept. B-47.



SELF-CONTAINED RAMP
For non-permanent installations. 72" x 72".



TRUCK-ACTUATED RAMPS
Two models, recessed and self contained, 96" x 72".

RITE-HITE DIVISION **LOOMIS MACHINE COMPANY**
133 EAST FOURTH STREET, CLARE, MICHIGAN

For more details circle NED-370 D7 on enclosed inquiry slip

PROTECT YOUR VALVE INVESTMENT

Specify and be sure you get **JENKINS** Renewable Composition **DISCS**

MADE BY THE ORIGINATORS OF RENEWABLE DISC VALVES

Jenkins Bros. has remained the leader in composition disc development and production since 1864, when the first renewable disc valve was introduced.

THE ONLY MANUFACTURER OF BOTH VALVES AND DISCS

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Describes all Jenkins Discs, and their applications for steam, hot and cold water, air, gas, oil, gasoline . . . including the new TEFLON® DISC for lasting, dependable control of oxygen and other gases, solvents, acids, alkalies, and other chemicals,—and for liquid food and similar services.

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FOR HIGHEST EFFICIENCY USE JENKINS DISCS IN

JENKINS VALVES

LOOK FOR THE JENKINS DIAMOND TRADE JENKINS MARK®

Jenkins Bros

For more details circle NED-371 D7 on enclosed inquiry slip

CUTTING PADS

- LONGER LIFE
- QUIETER CUTTING
- CLEANER, SAFER CUTS
- USABLE ON BOTH SIDES

Colonial self-healing Cutting Pads on clicker machine or hand die cutting often double, even triple die life. Clean, sharp cuts, no bounce backs, no splinters. Use Colonial Cutting Pads to cut leather, rubber, plastics, candy, paper, fibre, cork, felt, cloth, light gauge metals.

Write for Sizes, Prices — Address Dept. NED 457

COLONIAL RUBBER CO.
RAVENNA, OHIO

For more details circle NED-372 D7 on enclosed inquiry slip

How to select the correct VARIABLE SPEED DRIVE

Get your FREE copy now!

Complete description and engineering data on the Cleveland Speed Variator.

This unique variable speed drive gives you infinitely variable, stepless speeds up to 9:1 (from ⅓ to 3 times input speed). Precise adjustment gives instant, smooth speed change by manual, automatic or remote control.

Simple construction, compact, quiet running. No belts or complicated linkage.

Thousands already in use. Write for Bulletin K-200.

THE CLEVELAND WORM & GEAR COMPANY
Speed Variator Division, 3283 E. 80th St., Cleveland 4, O.
Sales Representatives in all major industrial markets

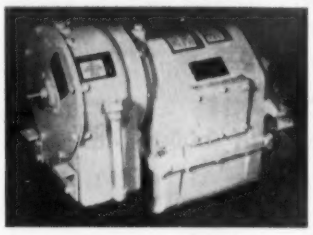
For more details circle NED-373 D7 on enclosed inquiry slip

PAPER TOWEL features high absorbency

Contoured or stippled surface of the UHA (ultra high absorbency) No. 151 paper towel provides it with high absorbency, bulk and thickness. It is soft and has high wet strength and a comfortable "feel" in use. The two-ply, disposable product measures 10 7/16 x 14 in. and fits existing C-fold dispensers. Made by **Scott Paper Co.**, Dept NED, Chester, Pa.

For more details circle NED-375 D7 on enclosed inquiry slip

HYDRAULIC DRIVE TRANSMISSION for 15 to 30 hp equipment



Compact design of this hydraulic drive transmission with three-element torque converter makes it particularly adaptable to smaller equipment in the 15 to 30-hp range. Converter and directional change transmission can be matched to various air and liquid cooled engines. Directional change is accomplished by dual multiple disk clutch, controlled by a single forward—neutral—reverse position lever. Output shaft governor arrangement is optional. Hydraulic torque converter cushions mechanical parts from shock and wear, and maintenance is simplified by having most parts immersed in oil. Made by **Prime-Mover Co.**, Third & Oak Sts., Muscatine, Iowa.

For more details circle NED-376 D7 on enclosed inquiry slip

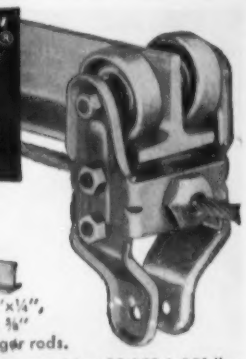
TAP BUSHINGS & DRIVERS accommodate 13 popular tap sizes

Economical tapping on lathes, horizontal and vertical mills, tapping machines and other machine tools is possible with Beaver tap bushings. No special drivers are required as long as the tool has a 1¼-in. hole. Bushings accommodate 13 popular tap sizes, minimize tap breakage and produce close-tolerance tapping. Beaver or other adaptors for end mills with a 1¼-in. shank will accommodate the tap bushing. For tapping in rapid sequence with drilling and reaming, a Beaver tap driver and the tap bushing can be used with a Beaver rapid drill chuck or any ball type chuck. Made by **Beaver Tool & Engineering Corp.**, Dept. N, Box 429, Royal Oak, Mich.

For more details circle NED-377 D7 on enclosed inquiry slip

TIPP "Cable-Way" Conveyors

Cable conveyors since 1938



VERSATILE ATTACHMENTS

Simple change from locked to swinging position — many hanger designs available.

Track is 2"x2"x¼", suspended by ⅜" threaded hanger rods.

3 trolley capacities: 80-150 & 250 lbs. Same trolley — change wheels only.

Low cost, easy to move, lightweight

Rugged all-bolted construction — easy to rearrange. Propelled by a driving corner sprocket (cast iron) which engages in drive lugs (steel) in pitch on a continuous cable. Write for catalog and engineering manual.

WRITE TO TIPP MANUFACTURING CO.
Tipp City 7, Ohio

TIPP-TRONIC Overhead Conveyor Control

No need for shear pins, etc. Can be set for any load limit. Includes warning prior to shut-off.

Compact 180° idle corners of cast aluminum 15¼", 22⅛" or 30⅛" dia.

Vertical dip—standard 60° or 90° included angle. Charts showing work clearances at dips and inclines available.

INVENTORY IN MOTION WITH . . . Tipp . . .
A FULLY ENGINEERED PRODUCT

For more details circle NED-378 D7 on enclosed inquiry slip

How Alcoa Aluminum Fasteners make good furniture even better

With your good name riding on every aluminum chair, chaise and settee, it pays to assemble with Alcoa® Aluminum Fasteners. You get perfect color match and lasting good looks with absolute protection against both galvanic and atmospheric corrosion. Your local Alcoa distributor has a complete stock of aluminum fasteners to meet your every need. He is listed in the Yellow Pages of your telephone directory.

ALCOA ALUMINUM FASTENERS

THE ALCOA HOUR
TELEVISION'S FINEST LIVE DRAMA
ALTERNATE SUNDAY EVENINGS

Your Guide to the Best in Aluminum Value

Fill out coupon for facts, samples

Aluminum Company of America
2245-D Alcoa Bldg., Pittsburgh 19, Pa.

Gentlemen: Please send complete specification data and samples of Alcoa Aluminum Fasteners.

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Title _____
Company _____
Address _____

For more details circle NED-379 D7 on enclosed inquiry slip

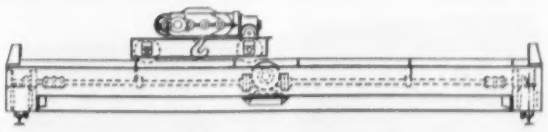
STANDARD HEADROOM Provides highest hook height with top-running trolley and foot mounted hoisting unit.

MEDIUM HEADROOM Here the hoisting unit is rigidly suspended from the top-running trolley to reduce clearance over rail.

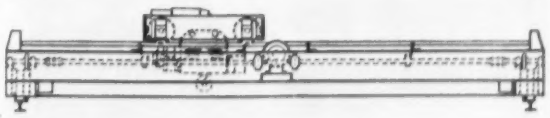
LOW HEADROOM Under-running trolley permits unusually high hook lift. Use it where clearance under bridge must be maximum.

SUSPENDED TRACK Operates on lower flange of crane runway suspended from roof guiders or other overhead support. Use also where load transfer is desired.

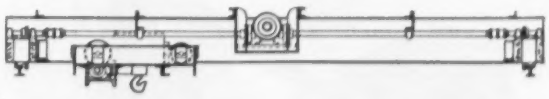
Model DTMD—TT



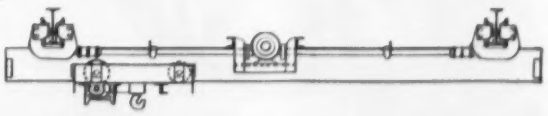
Model DTMD—LT



Model DTMD—UT



Model DUMD—UT



There is a CRANEMASTER for any building condition

Send For BULLETIN C-114

Describes in detail the many design and operating advantages of CRANEMASTER overhead traveling cranes. Also explains how Abell-Howe provides competent service from original survey to final installation.

ABELL-HOWE COMPANY 7747 Van Buren Street • Forest Park, Illinois

For more details circle NED-374 D7 on enclosed inquiry slip

Cold heading "Specials" can lower fastener costs!

When you have any "Special" fastening problem . . . requiring an unusual type of bolt, nut, screw, pin or headed or threaded part . . . our engineers can help you design it . . . and we can produce it economically on our wider range of cold heading equipment and specialized machinery.

For prompt assistance in solving your "Special" problems, just send us your specifications or call in your nearest National representative for full information on National's "Special Products Service" and the most complete line of standard fasteners for industry.

★ ★ ★

Representatives in Chicago, Cincinnati, Detroit, New York, Philadelphia, Kansas City, Milwaukee, Rochester, Denver, St. Louis, San Francisco, or Seattle—write or call direct to:

THE NATIONAL SCREW & MFG. CO.
2440 East 75th St., Cleveland 4, Ohio

For more details circle NED-380 D7 on enclosed inquiry slip

The Sign of QUALITY MOTOR CONTROL

The Modern Idea in Heavy-duty Push Buttons

These new Allen-Bradley heavy-duty push buttons have been redesigned to provide the attractive styling which has proved so popular with the Allen-Bradley oiltight buttons.

The new Bulletin 800 push buttons have the same maintenance-free contact blocks that are used on the oiltight push buttons. Please send for your copy of the latest A-B Handy Catalog.

Allen-Bradley Co.
1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

For more details circle NED-381 D7 on enclosed inquiry slip

ND EST. 1912

- INDUSTRIAL OVENS
- DUST COLLECTORS
- SPRAY BOOTHS
- PARTS WASHERS

Metal Parts Washers—Phosphatizing Units —Hydra-Spray Pickling Equipment

Metal parts are cleaned and processed by means of pressure sprays which converge on the parts from all angles. Solutions are heated to required temperatures by gas, oil or steam immersion heaters. Spray solutions remove foreign matter and perform metal treatment as required.

For Bulletins and Quotations, write to:

NEWCOMB-DETROIT
5769 RUSSELL ST. • DETROIT 11, MICH.

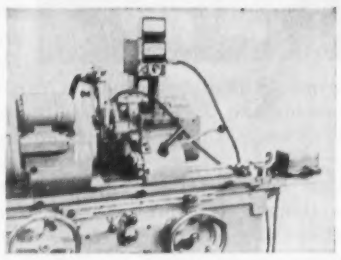
For more details circle NED-382 D7 on enclosed inquiry slip

DRILL UNITS
equipped for automatic gun drilling

Deep holes from 5/32-in. diameter upward; shallow holes where straightness, size and finish are critical; and rapid rate of metal removal where finish is not important are drilling techniques possible with Air-Oil-Matic drill units. Equipped for automatic gun drilling, units force high pressure coolant through the drill to contact the work at the cutting head. Units have infinitely variable speeds to 8000 rpm and feeds to 40 ipm, each independent of the other. Infinitely adjustable 6 or 9-in. strokes are also offered. Oil controls the feed, and air powers the stroke. Coolant pressures range up to 1000 psi. Made by **Morris Machine Tool Co.**, 933-45 Harriet St., Cincinnati 3, O.

For more details circle NED-383 D7 on enclosed inquiry slip

GRINDER CONTROL UNIT
assures accuracy of 0.00004-in.



Any grinder can be automatically controlled to produce external pieces to fit bores within limits of desired radial play by the LI-AP Autopairer grinder control. Accuracy down to 0.00004-in. is assured and backlash is electronically compensated. Finished bores are placed on the inside-diameter gaging anvil one by one. The rough stem, or work piece, is then placed in grinding position and automatically ground to fit. No gage readings are necessary. The ID attachment can be disconnected, converting the unit into an L-1 Autosizer for grinding a series of pieces to identical size. Made by **Industrial Gauges Corp.**, EAM Div., Dept. N, West Englewood, N. J.

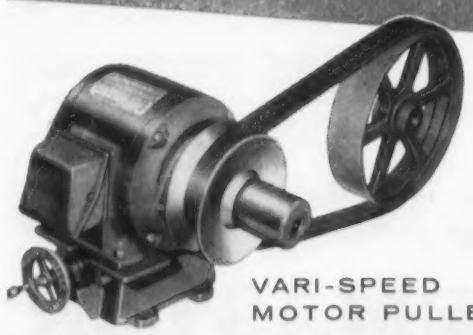
For more details circle NED-384 D7 on enclosed inquiry slip

Motor Selector

Century Electric Co.—Selection of the proper electric motor for any given application is facilitated with the 12-page illustrated Application Guide No. 102. This 12-page manual includes tables for various types of equipment to be driven. Selection is further based on load, speed of operation, starting and running torques, surrounding atmosphere, frame type and speed. Specifications are given on single and polyphase ac and on dc motors with ratings from ¼ to 400 hp.

For more details circle NED-385 D7 on enclosed inquiry slip

ADD FLEXIBILITY to your machines with the REEVES MOTOR PULLEY



VARI-SPEED MOTOR PULLEY

provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 15 hp.

Write ND30-V545 for bulletin

REEVES PULLEY COMPANY
Division of RELIANCE Electric & Engineering Co.
COLUMBUS, INDIANA

For more details circle NED-386 D7 on enclosed inquiry slip

LOW COST SWITCHES
FOR ALMOST ANY ELECTRICAL PRODUCT

Low-priced Stackpole slide switches provide practically any needed switching arrangement for appliances, instruments, radios, TV sets, small motors and electrical toys. They're sturdy, fully dependable, small in size.

22 STANDARD TYPES

Types from .5 to 3 amperes A.C. Underwriters approved. Write for Slide Switch Bulletin RC-9B to:

Electronic Components Division
STACKPOLE CARBON CO.
St. Marys, Pa.

STACKPOLE

Fixed and Variable Resistors • Iron Cores • Ceramag® ferromagnetic Cores • Molded Coil Forms • "GA" low-value Capacitors

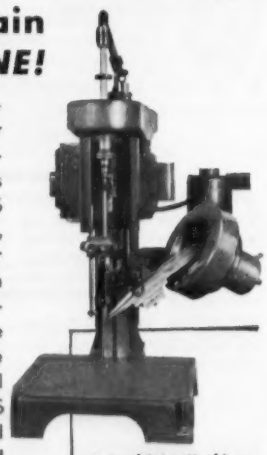
For more details circle NED-387 D7 on enclosed inquiry slip

Are your Sales and Profits Lines Parting Company?

Double pressure: stiff competition and rising costs can cause profits to falter . . . .

DPS POWER ASSEMBLING METHODS will help sustain that *PROFITS LINE!*

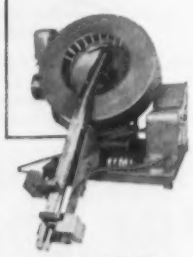
• Though profits may continue to move upward under present conditions, profit increases may not match sales advances. Here is where DPS methods with their time-saving, stepped-up output and lower costs can meet the situation effectively. Results in progressive plants everywhere prove it. Plan now to put more profit into your feeding and assembling operations. DPS POWER SCREWDRIVERS and SELECTIVE PARTS FEEDERS will do it. Write us, give details. We'll send catalog and recommendations.



Screwdriving Machines
Bench and Pedestal Types
5 Models

BOWL FEEDER
Electrical vibratory type to feed parts that cannot be tumbled.

BARREL FEEDER
with stationary ring cover for heavy-duty production.



BARREL FEEDER
Popular motorized type, for parts requiring critical selection.

DETROIT POWER SCREWDRIVER CO.
2819 W. FORT ST. DETROIT 16, MICHIGAN

For more details circle NED-388 D7 on enclosed inquiry slip

dependable

ANCHOR CONVEYOR TROLLEYS

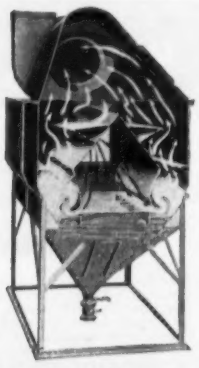
Engineered for longer life and greater economy, ANCHOR Improved Conveyor trolleys are backed by 30 years of conveyor experience. These trolleys are interchangeable with other leading makes, have protected lubrication fittings, baffle type grease seals, hardened and ground races, and caged ball bearings. Write for Bulletin 56-2.

ANCHOR STEEL & CONVEYOR CO.

6906 KINGSLEY AVE. • DEARBORN, MICHIGAN

For more details circle NED-389 D7 on enclosed inquiry slip

Type N ROTO-CLONE SAVES as it SOLVES Dust Problems



Costs less to maintain because of engineered simplicity. This wet-type collector requires no pumps or nozzles; features maintenance-free entrainment separators; has interior surface free of dirt-catching ledges.

Requires less space because ROTO-CLONE combines collector, exhauster, motor, drive and storage hopper in one compact package.

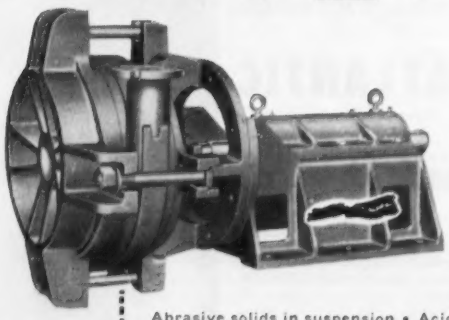
An outstanding performer because of high cleaning efficiency resulting from combined action of centrifugal force and thorough intermixing of water and dust-laden air. Compensating water level feature assures high efficiency over wide range of exhaust volumes. Available in exhaust volumes up to 50,000 cfm. Write for Bulletin 277.

American Air Filter COMPANY, INC.

391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

For more details circle NED-390 D7 on enclosed inquiry slip

Which of these Materials Needs More Efficient Handling in Your Plant?



The New MORRIS Type RX Slurry Pump

Abrasive solids in suspension • Acid slurries • Caustic liquors • Milk of lime • Soda Ash • Tailings • Slag Ore concentrates • Residue from filters • Coal • Silt Washery Solids Cement and glass sand slurries.

You'll get longer uninterrupted service with the Morris Type RX Slurry Pump:

- No internal studs to cause leakage
- Low pressure stuffing box practically eliminates packing troubles
- Impeller and liner removed without disturbing piping
- Moving parts available in various corrosion-abrasion resistant alloys

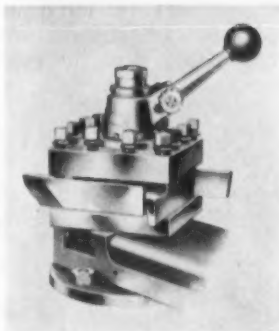
Specifications and operation data on request. No cost—no obligation.

MORRIS CENTRIFUGAL PUMPS

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Representatives in Principal Cities

For more details circle NED-391 D7 on enclosed inquiry slip

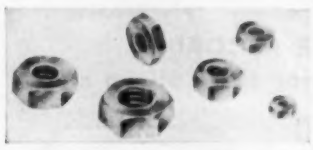
TURRET TOOL POST features clamping type handle



Raising the clamping handle of this turret tool post from horizontal to about 45 degrees clamps a locking collar tightly around center column of the turret. Only hand pressure is required. Once locked, turret withstands vibration even when handling interrupted cuts or fast feeds on production lathes. Turret is unlocked by lowering and pushing the handle, and can be rotated freely to any of 12 indexing positions to bring the required tool into position. Three mounting styles and 11 different sizes are available. Made by **McCrosky Tool Corp.**, 1900 S. Main St., Meadville, Pa.

For more details circle NED-392 D7 on enclosed inquiry slip

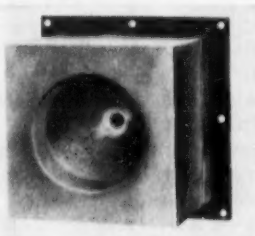
BRASS MACHINE SCREW NUTS are countersunk on both sides



Machine screw nuts, machined from high tensile strength brass rod, are now available countersunk on both sides. Precision threads, absolutely square with both nut faces, make their use practical in automatic nut running and automatic assembly operations. Nuts are degreased clean and dry for bulk shipment off the shelf. Made by **Cornell Mfg. Co.**, 20 Saw Mill River Rd., Yonkers, N. Y.

For more details circle NED-393 D7 on enclosed inquiry slip

GAS BURNER has high rate of heat transfer



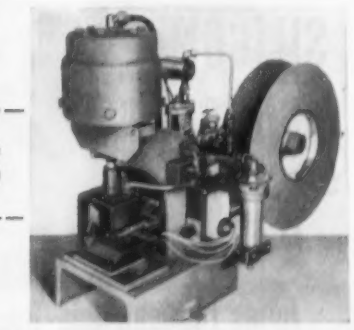
Large radiant heat surface and high rate of heat transfer without flame impingement are features of the Hi-Radiant cone gas burner. High speed combustion and rapid penetration of the work by radiant heat minimize size of steel, nonferrous and ceramic furnaces or chemical heat reaction equipment in which it is used. Burner mixes any commercial fuel gas with air at its stainless steel nozzle outlet. Short flame length and low forward velocity of combustion gases permit uniform heat distribution. Turndown ratio is more than 10 to 1. Burner can be controlled manually or by automatic pressure proportioning or automatic mechanical control. Made by **Hauck Mfg. Co.**, 128-138 Tenth St., Brooklyn 15, N. Y.

For more details circle NED-394 D7 on enclosed inquiry slip

CRIMPS

SOLDERS

SNIPS



15 to 20,000 terminals a day!

Now you can make thousands of perfect terminal attachments *automatically* with this high speed, low cost P-M Auto-Soldering Machine. Advance features include: new, in-line feed system permitting continuous flow of P-M terminal strip (containing solder) from disposable reels . . . electric solenoid trip on air feed for positive control . . . thermostatically controlled heating element . . . foot treadle control for faster, easier operation.

WRITE FOR COMPLETE DETAILS!

P-M PATTON-MacGUYER COMPANY
16 Virginia Ave., Providence 5, R. I.

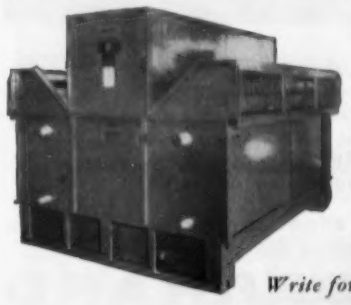
For more details circle NED-395 D7 on enclosed inquiry slip

NIAGARA Aero

SECTIONAL HEAT EXCHANGER

A Self-Contained Cooling System

● Niagara *Aero* Heat Exchanger offers a completely self-contained system independent of any considerable water supply, replacing both shell-and-tube cooler and cooling tower. Water consumption is only the evaporation and the small amount passed as blowdown to prevent hardness build up. Net saving is 95% of water used in cooling from external sources. You solve the problem of water supply and disposal; you save much additional expense and equipment in water handling, piping, pumping.



Casing panels are removable with full access to all parts and interior piping for easy inspection. Sections are shipped as flat panels with saving in freight charges.

Write for Bulletin No. 132

NIAGARA BLOWER COMPANY
Dept. E.D.4, 405 Lexington Ave., New York 17, N. Y.

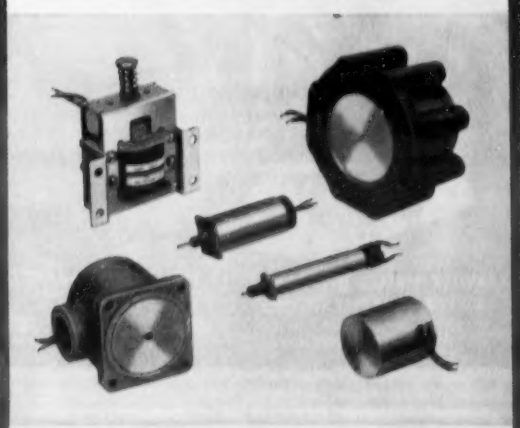
For more details circle NED-396 D7 on enclosed inquiry slip

NATIONAL ACME

Solenoids

STANDARD or CUSTOM ENGINEERED to fit your design

To meet specific job requirements, solenoids of special shapes and sizes are designed and built through co-operation of our engineers with yours.



NATIONAL ACME OFFERS *2-Way Machine Design Service*

First, National Acme supplies solenoids so dependable that they have become standard components in the majority of the most rugged machine tools. Second, National Acme offers you sound application experience, based upon successful performance in many fields.

National Acme solenoids will make *your job easier*—because they do *their job better.*

1. *Armored contact points —for millions of operations*
2. *Non-magnetic retainers*
3. *Compact—for use where space is limited*
4. *Rugged enough for heaviest duty*
5. *Available with terminal blocks and variety of standard mountings*
6. *Made in Push and Pull types, within sizes from 2¼ to 21 lbs. at ½-inch stroke; 2 to 25 lbs. at 1-inch stroke.*

If you are ready to discuss your problem, ask us to send a National Acme representative. If you want more information first—send for BULLETIN EM-52

Electrical Manufacturing Division

National Acme

The National Acme Company • 182 E. 131 St. Cleveland 8, Ohio

For more details circle NED-397 D7 on enclosed inquiry slip

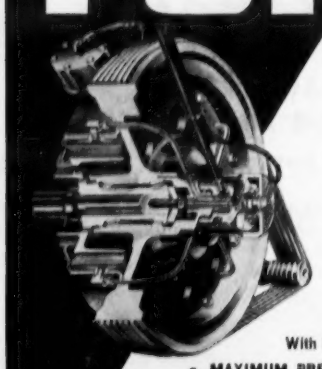
. . . saves breakage during shipment of these odd-shaped fire bricks. Packaging with USS GERRARD Flat Steel Strapping saves handling time and storage space, too. Start saving now! Write today for a FREE copy of USS Gerrard's new 36-page Blue Book of Packaging!

GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
4717 South Richmond Street, Chicago 32, Illinois

USS GERRARD
ROUND STEEL STRAPPING FLAT STEEL
UNITED STATES STEEL

For more details circle NED-398 D7 on enclosed inquiry slip

FSPA*



* FAWICK STANDARDIZED PRESS APPLICATIONS convert presses to modern pneumatic clutch operation. Complete package contains Fawick CB Airflex Clutch, CS Brake, Timing Rotorseal, Controls and flywheel.

With FSPA you get:
- MAXIMUM PRESS SPEED
- MAXIMUM PROTECTION TO PRESS, DIES AND OPERATOR
- ADAPTABILITY TO ANY TYPE OPERATION
- SIMPLIFIED INSTALLATION

Write for more information:

FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 CLINTON RD. • CLEVELAND 11, OHIO
In Canada, Fawick Canada, LTD., Toronto

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

For more details circle NED-399 D7 on enclosed inquiry slip

Now! PRECISION EXPANDING MANDRELS by CHAMPION

The expanding sleeve, mounted on tapered arbor, expands automatically to fit the hole. Inserted by hand — no arbor press needed. Always an exact, positive, concentric fit. Locked by a single mallet blow. Unlocked in the same way. CHAMPION Expanding Mandrels are used in machine shops around the world. Save time, cut production costs, whether the job calls for machining one piece or a thousand.

Precision Model has expansion range of .010". Available in regular sizes to fit holes from 1/2" to 9 1/2" diam. Holds work to tolerances of .0002" run-out. Guaranteed for precision grinding, turning and milling operations.

Standard Model maintains close tolerances, handles material of any length bore, hard or soft metals — from thin tubes and bushings to heavy castings and forgings. A set of fourteen will fit every hole from 1/2" to 9 1/2" diameter.

CHAMPION Expanding Mandrels can be made in special shapes and sizes to fit any specifications. Quotations on request. Write for descriptive folder today.

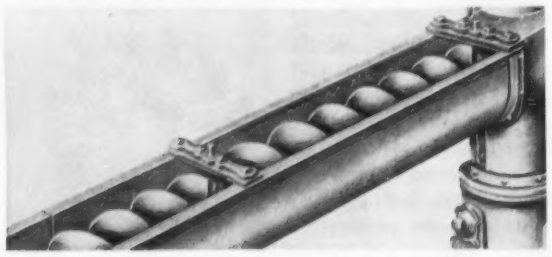
Certain areas are available for qualified distributors.

PATTON MANUFACTURING COMPANY, INC.
1802 West Pleasant St., Springfield, Ohio

For more details circle NED-400 D7 on enclosed inquiry slip

SCREW CONVEYOR for free-flowing bulk materials

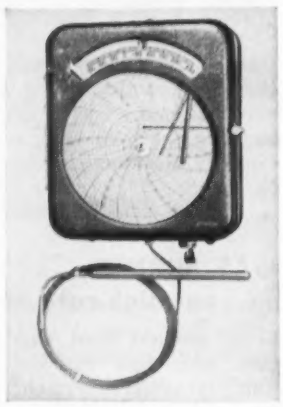
Components in 100-ft run of the Beeline screw conveyor are straight within a fraction of an inch, eliminating need for machining, fitting and instal-



lation adjustments. Designed for conveying most free-flowing bulk materials, it can be made dusttight easily. Components and accessories are made to industry standard and will interchange with equipment of other makers. Screw flights are rolled from cold-formed alloy steel. Diameters from 4 to 16 in. are available in specific metals for various requirements. Made by **Fort Worth Steel & Machinery Co.**, Dept. NED, 3600 McCart St., Ft. Worth, Tex.

For more details circle NED-401 D7 on enclosed inquiry slip

HEAT & PRESSURE RECORDER mounts indicator scale above chart



Large indicating scale and pointer are mounted above the recording chart in the Mindicorder for easy reading of temperature or pressure from a distance. Pointer and recording pen are synchronized as only one measuring element is used. Recording of temperature, pressure, vacuum, electrical operation and mechanical motion is possible with the 2 x 9 x 10¾-in. instrument. About 100 different chart ranges, temperature ranges from −200 to 1000° F and pressures to 2000 psi, are offered. Sealed instrument for wall or panel mounting has synchronous electric or spring-wound clock movements. Made by **Dickson Co.**, 7418 Woodlawn Ave., Chicago 19, Ill.

For more details circle NED-402 D7 on enclosed inquiry slip

Magnetic Shielding

Perfection Mica Co., Magnetic Shield Div.—Technical Bulletin 122 discusses advantages and methods of fabricating nonshock sensitive nonretentive Fernetic Co-Netic magnetic shielding material. Attached are seven pages of graphs including B/H curves, hysteresis curves, core loss, Curie temperatures and coatings relative to frequency.

For more details circle NED-403 D7 on enclosed inquiry slip

SILICONE RUBBER SILASTIC R TAPE

forms resilient, void-free, moisture proof jacket

A class H insulating material, Silastic* R Tape remains rubbery at 500 F and is an excellent thermal conductor. Silastic R Tape is a laminate of glass cloth and Dow Corning's silicone rubber. Electric machines insulated with Silastic R Tape carry heavier loads without overheating. It is easy to apply . . . useful for building flexible heating elements for contoured surfaces as well as for insulating electric machines. Consider Silastic R Tape for your insulating problems.

DOW CORNING SILICONES

Get FREE sample, data . . . Write today! Dept. 5416

DOW CORNING CORPORATION
MIDLAND, MICHIGAN
*T. M. REG. U. S. PAT. OFF.

For more details circle NED-404 D7 on enclosed inquiry slip

12 New Towmotor Features!

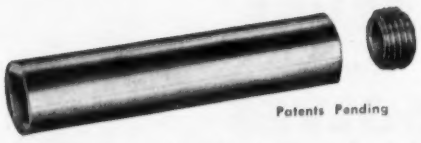
Have you seen the new Towmotor Fork Lift Trucks lately? They offer the industry's most significant advances in modern low-cost mass-handling. Write for bulletin SP-23 describing 12 new improvements including:
- New pace-setting comfort features
- New power-to-spare engines
- New positive-response hydraulic lift
- New one-piece all-welded frame
- New "easy-off" hinged hood
- New improved TowmoTorque transmission

TOWMOTOR THE ONE-MAN-GANG -GERINGER

TOWMOTOR CORPORATION • Cleveland 10, Ohio

For more details circle NED-405 D7 on enclosed inquiry slip

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



Patents Pending

One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of breached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole breached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES: 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., DETROIT 19, MICH.

For more details circle NED-406 D7 on enclosed inquiry slip

For lower snagging costs...

ATLANTIC "Job-Mated" GRINDING WHEELS

Time and again snagging costs have been reduced by the following ATLANTIC ABRASIVE formula: (1) a thorough analysis of specific snagging operations; (2) "mating" the grinding wheel characteristics to the job requirements.

RESULTS. Because ATLANTIC Resinoid-Bonded GRINDING WHEELS are "job-mated," they have a smooth, floating action that requires less pressure, thereby reducing operator fatigue, and they cut cleaner, faster and run cooler on job after job . . . reducing costs to a minimum. Prove it for yourself. Call your nearby ATLANTIC representative or write direct. Atlantic Abrasive Corp., 504 Pearl St., South Braintree, Mass.

ATLANTIC ABRASIVE CORP.
South Braintree 85, Massachusetts

For more details circle NED-407 D7 on enclosed inquiry slip

Tuff-Tite® Fasteners

Secure A Million Sq. Ft. Of Roofing At Lakehurst

Townsend Tuff-Tite fasteners were selected to secure the Alcoa corrugated aluminum alloy roofing sheet on two of the world's largest aircraft hangers at Lakehurst Naval Air Station because their unique design provides great holding power and a watertight seal.

Tuff-Tite screws are made with the head and washer in one piece, and are supplied with an assembled neoprene washer which is trapped and controlled by the undercut in the head as the fastener is tightened. The conical design of the neoprene washer helps to lock it to the shank of the fastener, and serves to force it into the hole and seal it.

To learn how to achieve economical watertight construction, see the Townsend section of Sweet's Plant Engineering file, or write for your copy of Bulletin TL-107.

Townsend Company
P. O. Box 237-G • New Brighton, Pa.

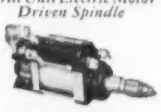
For more details circle NED-408 D7 on enclosed inquiry slip

Holomatic SYSTEMS

Double-end machine equipped with two Holomatic drill units. Available in three high-production models.

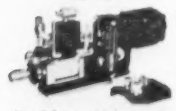
CUT DRILLING-TAPPING TIME

Model 24 – Holomatic Drill Unit Electric Motor Driven Spindle



Model 14 – Holomatic Drill Unit Air Motor Driven Spindle

Model 24 – Holomatic Unit For Drilling and Tapping



Model 24 – Holomatic for Deep Hole Drilling

Automatic Drill Press: Available in four base lengths with 1, 2, 3 or 4 Holomatic units vertically mounted.

● The modern high-production method for all automatic spindle type operations. Available as individual, self-contained power head units for installation on existing production machinery or as complete base-mounted machines with automatic controls.

Holomatic units operate on shop air line pressures for thrust and feature a self-contained hydraulic system for positive, accurate spindle travel and feed regulation. Traverse and feed rates are infinitely adjustable. Automatic, manual cycling, skip drilling, stops or dwell operations are easily arranged. Built-in air control valve simplifies set-ups and cuts installation time. Holomatic units operate efficiently at *any* angle.

Amazingly versatile, accurate, the Holomatic systems can be quickly and easily set-up for single or multiple operations. A Holomatic system in your plant will quickly and easily pay for itself through savings in time, money and tools.

Survey your production equipment now and visualize how easily and economically a Holomatic unit or complete system could boost your production rates.

Write today for complete information, specifications and prices ... or, ask your Hause representative for an actual, obligation-free demonstration of the Holomatic System right in your plant!

Hause ENGINEERING
MONTPELIER • • OHIO

For more details circle NED-409 D7 on enclosed inquiry slip

SPRAYING OUTFIT
pumps directly from 55-gal drums

Wide variety of liquids can be pumped directly from original 55-gal drums by the high volume Graco Hydra-Spray unit. A fingertip trigger on the spray gun automatically starts and stops the air-powered pump. Nozzle can be adjusted for heavy or fine spray. Pumps operate from head or 2-in. bung opening without exerting pressure on the drum. Illustration shows unit with pole type spray gun for hard-to-reach areas. Made by **Gray Co.**, 1087 Sibley St. N.E., Minneapolis 13, Minn.

For more details circle NED-410 D7 on enclosed inquiry slip

GRINDING WHEEL DRESSER
features easily changed cutters

Bicycle type grip on the angled handle of the Huntington style grinding wheel dresser makes it safe and comfortable to use. New cutters are installed without dismantling. Six sets of bearings permit using next hole when worn or damaged. Cutters are milled of hard steel and are offered with three types of teeth in 1¼, 1½ and 2⅜-in. diameters. Three dressers are available for wheels up to 10-in., from 10 to 16-in. and over 15-in. diameters. Made by **Machine Products Corp.**, Dept. N, 125 Hollier St., Dayton 3, O.

For more details circle NED-411 D7 on enclosed inquiry slip

PNEUMATIC CRIMPER
can do staking and press operations

Designed primarily to crimp solderless electric terminals such as A-B-C Stakon die sizes or their equivalent, this Airlox pneumatic crimper also lends itself to staking and some press operations. Adjusting nut with locking feature limits forward movable jaw stroke to any predetermined point in the ½-in. maximum jaw movement. Set screw with locknut limits jaw return. This allows fixed depth of indentation on the work. Squeeze developed is 50 times air line pressure. Made by **Production Devices Inc.**, Dept. N, Whitehall, N. Y.

For more details circle NED-412 D7 on enclosed inquiry slip

NEW

ADVANCED LINE OF *Norgren* AIR LINE FILTERS

MORE COMPLETE REMOVAL OF LIQUIDS

MINIMUM PRESSURE DROP

Write for New No. 800 CATALOG

C. A. NORGREN CO.
3405 SOUTH ELATI STREET • ENGLEWOOD, COLORADO

For more details circle NED-413 D7 on enclosed inquiry slip

Cut Maintenance Expense with QUALITY

LUNKENHEIMER *pop safety and relief valves*

FIG. 658
Relief Valve
Relief Valves are used to control liquids. They start to open at the set pressure, but require about 20% overpressure to open wide.

FIG. 433
Pop Safety Valve
Pop Safety Valves are used to control gases, including steam. They pop wide open when set pressure is reached, stay open until it drops, then snap shut instantly.

REQUEST LITERATURE from your Lunkenheimer Distributor or
The Lunkenheimer Company
Cincinnati 14, Ohio

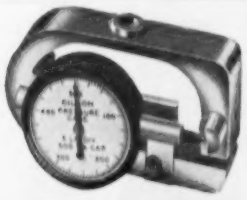
FIG. 658 RELIEF VALVE — FIG. 433 POP SAFETY VALVE

LUNKENHEIMER®
THE ONE *Great* NAME IN VALVES

L-157-55

For more details circle NED-414 D7 on enclosed inquiry slip

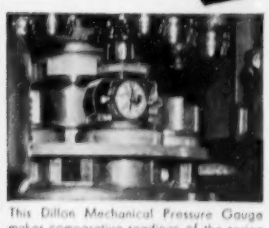
DILLON Mechanical PRESSURE GAUGE



This compact instrument will accurately measure pressure or compressive loads in very small spaces—will flex millions of cycles without losing its resiliency. Sustains 25% accidental overload. Measures pressure in vises, hydraulic presses, spot welders, etc. Jeweled dial indicator for extreme accuracy. Range capacity to 50M lbs. Low cost.

Send today for illustrated catalog.

IDEAL FOR USE WHERE SPACE IS LIMITED



This Dillon Mechanical Pressure Gauge makes comparative readings of the spring pressure exerted against the bottom of tin cans by the base plate in a can seaming operation. Thus, the operator can tell if all base plates exert uniform pressure in each seaming station.

W. C. DILLON & CO., INC.
14578NE Keswick St. Van Nuys 1, Calif.
"Suburb of Los Angeles"

For more details circle NED-415 D7 on enclosed inquiry slip

SILVER ALLOY BRAZING GIVES YOU THESE BENEFITS

JOINS MOST METALS

STRONG, PERMANENT JOINTS

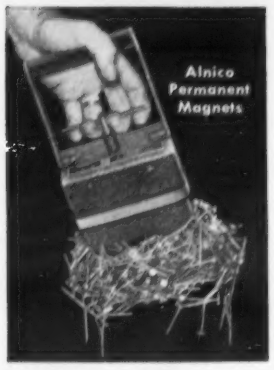
CHOICE OF HEATING METHODS

Join most metals—similar or dissimilar with Handy & Harman's EASY-FLO or SIL-FOS, quickly and economically.
Brazed Joint is permanent and strong—fluid and gastight, resistant to corrosion and vibration.
You choose the heating method—torch, burner, induction, electric resistance, incandescent carbon, salt bath or furnace.
With silver brazing, the design of your product often can be simplified.
Bulletin 20—gives you the full story of EASY-FLO, SIL-FOS and HANDY FLUX as well as information on joint design and brazing techniques. Send for your copy.

HANDY & HARMAN
82 Fulton Street
New York 38, N. Y.

For more details circle NED-416 D7 on enclosed inquiry slip

HERE'S THE COST-SAVING ANSWER TO SMALL PARTS HANDLING!



Amazing New MAGNETOOLS speed parts handling. Pick up and release instantly.

The new hand Magnetools perform a variety of cost-saving operations never before possible. Instant pick-up and release of small parts! Separate steel parts from non-ferrous metals . . . remove iron and steel parts from tumbling media . . . speed handling of heat treated material and simplify pick-up of sharp, jagged parts. There are many ways that Magnetools can reduce your costs! Alnico magnets last indefinitely. No wires or batteries to worry about!

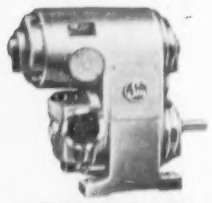
Order today on 10-day FREE TRIAL, or write for literature on complete line of Magnetool products.

MAGNETOOL DIVISION, Multifinish Mfg. Co.
Dept. 257 • 26341 W. Eight Mile Rd. • Detroit 19, Mich.

Model 71	Model 72	Model 74
2-3 lbs. Capacity	4-5 lbs. Capacity	8-9 lbs. Capacity
$19.75	$38.00	$60.00

For more details circle NED-417 D7 on enclosed inquiry slip

VARIABLE SPEED AT ITS BEST!
STERLING *Speed-Trol*



STERLING SPEED-TROL VARIABLE SPEED MOTORS

STERLING SPEED-TROL SEPARATE MOTOR DRIVES

The positively adjusted pulley linkage system in Sterling Speed-Trol Variable Motors makes possible:

- Infinitely variable speed
- Accurate maintenance of any selected speed
- Transmission of full-rated horsepower
- Long belt life
- Compact design

Speed-Trols give maximum power capacity in a single compact, rugged unit. Measure the *outside* for space saving and mounting advantages—measure the *inside* for performance and long life.

WRITE TODAY
For Bulletin No. 188

Discover the big advantages Sterling Speed-Trol Variable Speed Motors can bring to your plant.

STERLING ELECTRIC MOTORS
Los Angeles 22 • Chicago 35 • Cincinnati 37 • New York 51

For more details circle NED-418 D7 on enclosed inquiry slip

- Hot Water Systems
- Floors, Walls, Ceilings
- Refrigerated Coils
- Insulation
- All Other Low Temps.

You can accurately read any low surface temperature with the Alnor Type 2300 Surface Pyrometer—in 3 to 5 seconds.

Take this rugged, portable instrument to any job in the field and see how performance to laboratory standards can save invaluable time in balancing out a system... save the money lost on call-backs. Large 6" mirrored scale is direct reading, no conversion... no errors in readings... 1° per division. Precision jeweled movement is protected against abuses of portable service by sturdy walnut case. Comes complete with matched thermocouple and lead ready to use on your next trip out. Send for Bulletin 4257. Tear out this ad and mail on your letterhead to: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle Street, Chicago 10, Illinois.

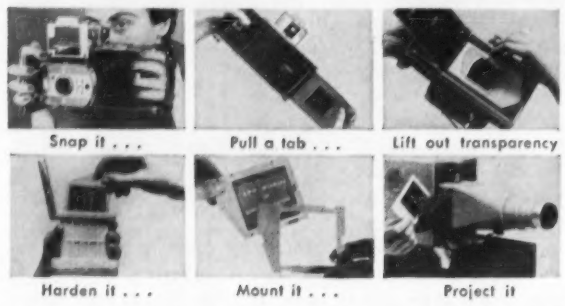
PRECISION INSTRUMENTS FOR EVERY INDUSTRY

Alnor

For more details circle NED-419 D7 on enclosed inquiry slip

SLIDE PROJECTION FILM
slides ready for use in 2 minutes after camera shutter is snapped

Two minutes after a picture is snapped with a Polaroid Land camera, a slide of the subject is ready for projection. This is possible with Polaroid Land pro-

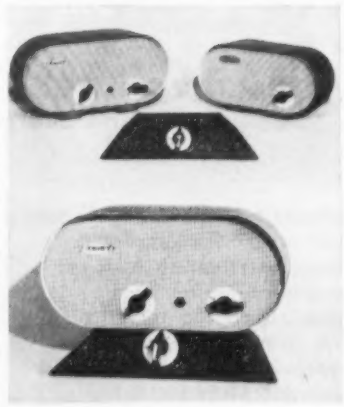


jection film which has an ASA speed of 1000 and produces a virtually grainless image, even when projected as large as 12 x 12 ft. Basic steps in use require no previous photographic experience.

Transparency can be mounted and projected immediately. High speed permits making pictures in very low light levels and the use of small lens apertures to keep details sharp over great distances. Expected to have many industrial uses, film is available in two sizes for making 2¼ x 2¼-in. and 3¼ x 4-in. (lantern slide size) slides. It is used in any Polaroid Land camera except model 80. Illustrations show sequence of operations. Made by **Polaroid Corp.**, Dept. CM, 730 Main St., Cambridge 39, Mass.

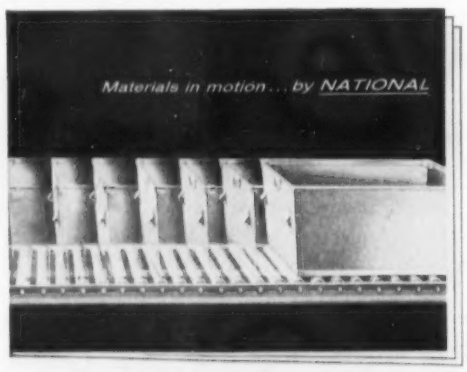
For more details circle NED-420 D7 on enclosed inquiry slip

INTERCOM SYSTEM
can have up to five remote stations



Tone signal for calling the stations, three-tube high-gain circuit, low hum level 4-in. speaker, on-off pilot light and wide range volume control are features of the model 600 intercommunication system. For a two-station installation one model 600M master and one matching model 600R remote unit, plus wiring, are required. For up to five remote stations, master unit is combined with model 600S station selector which snaps to the bottom of the master. Any of the remote stations can be called individually, or all can be called simultaneously. System can be installed with six master units, with up to 1000 ft between stations. Made by **Crown Controls Co.**, 50 S. Washington St., New Bremen, O.

For more details circle NED-421 D7 on enclosed inquiry slip



FREE MATERIALS HANDLING GUIDE . . .

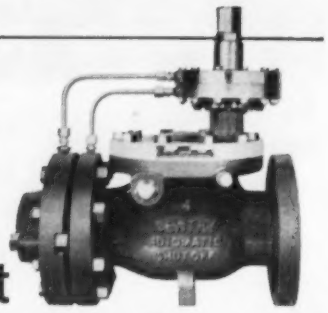
- How blue chip companies cut materials handling costs.
- How a simple change in *receptacles* can speed your work.
- How to buy handling equipment that pays for itself.
- How Kennett receptacles reduce damage to parts and components.

WRITE NOW for your free copy of "MATERIALS IN MOTION"—your dependable guide to real savings in materials handling. Address Department K-4.

NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE
In Canada: National Fibre Company of Canada, Ltd., Toronto 3, Ontario

For more details circle NED-422 D7 on enclosed inquiry slip

SENTRY VALVES
stop or start full round flow in split second



Latch-type valve closes instantly!
Piston-type valve opens instantly!

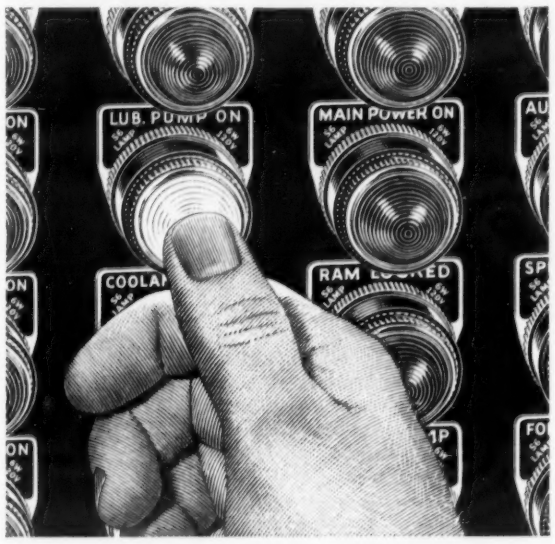
Sentry Valves are used on liquid and gas lines . . . protect property, materials and processing. Sizes 1½" to 8".

Have details on quick, positive action of this remarkable Coppus line at your fingertips. WRITE to COPPUS ENGINEERING CORPORATION, 703 Park Avenue, Worcester 2, Mass.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

For more details circle NED-423 D7 on enclosed inquiry slip

WHAT'S NEW IN MOTOR CONTROL?



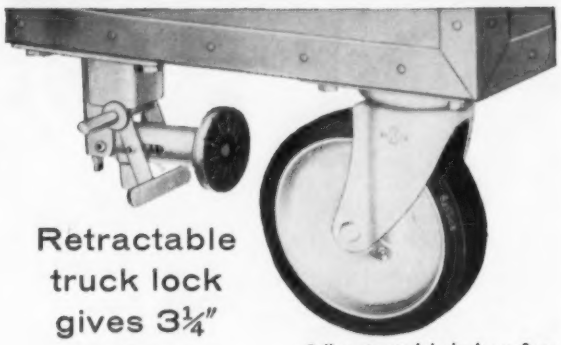
NOW... PRESTEST THE SELF-TESTING SAFETY LIGHT

Indicating lights are vital to the safety and proper use of many machines, particularly in automation. But such lights always pose a troublesome question. When a light is "off," is it indicating a circuit condition . . . or is the bulb burned out? There is no guesswork with the new Cutler-Hammer PresTest Indicating Light. Merely pressing on the light lens disconnects the lamp from its operating circuit and checks it instantly on a continuously energized test circuit. So simple and easy, it ends the hazards of infrequent testing. PresTest lights are one-hole, oil-tight mounting. Available in both resistor and transformer types. For full information on PresTest and matching heavy duty pushbutton units, write today on your company letterhead for the Pushbutton Handbook Pub. EL-178. CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin.

CUTLER-HAMMER MOTOR CONTROL C-H

GET IT FIRST IN CUTLER-HAMMER

For more details circle NED-424 D7 on enclosed inquiry slip



Retractable truck lock gives 3¼" clearance

Fully retracted lock clears floor by 3¼".

Bassick's position lock is designed for use on castered scaffolds, floor trucks, engine stands and other portable equipment. It rides 200% higher than most other makes. It locks securely and releases easily with a touch of the toe as shown. Holding pressure can be controlled. Models available for use with either 6" or 8" casters. THE BASSICK COMPANY, Bridgeport 2, Conn. *In Canada:* Belleville, Ont. 7.34

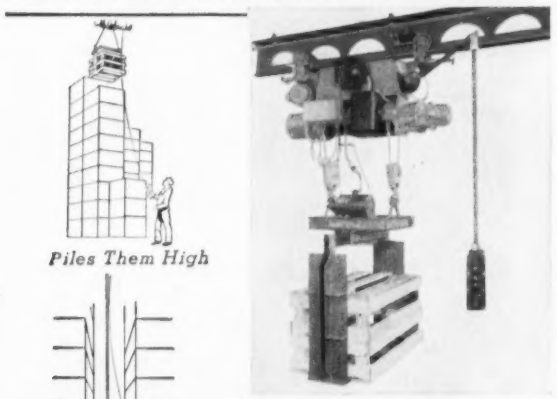
Engage or release lock with foot.

Bassick A DIVISION OF STEWART SW WARNER

MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

▲ For more details circle NED-425 D7 on enclosed inquiry slip ▲

CRATE GRAB AND CARRIER



Piles Them High

Works in Tight Spots

Completely motorized. Lifts one or more boxes at a time to 20 ft. height. Motor-driven grab arms spread from 18" min. to 36" max. Enables quick, safe stacking at great heights. Increases storage capacity.

GET THIS BOOK!

BOOKLET No. 2008 Packed with valuable information . . . Profusely illustrated.

CLEVELAND TRAMRAIL ENGINEERING AND APPLICATION DATA BOOK 2008

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6602 East 285 St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

▲ For more details circle NED-426 D7 on enclosed inquiry slip ▲

SILENT SOUND TRAPS THIEVES!

By saturating the protected area with high-frequency sound waves, Kidde's Ultrasonic Burglar Alarm System gives *complete* wall-to-wall, floor-to-ceiling protection. Properly installed, the portable, tamper-proof Kidde system qualifies for an Underwriters' Laboratories number 2 certification. Write today for Kidde's Ultrasonic Alarm Booklet, on the *best* burglar protection at the *lowest* cost!

The words 'Kidde', 'Lux', 'Lux-O-Matic', 'Fyre-Freez' and the Kidde seal are trademarks of Walter Kidde & Company, Inc. and its associated companies.

Kidde

ULTRASONIC DIVISION
Walter Kidde & Company, Inc.
424 Main St., Belleville 9, N. J.

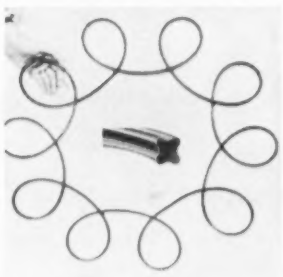
▲ For more details circle NED-427 D7 on enclosed inquiry slip ▲

SPRAY ATOMIZER
sprays cleaner on contact points

Hard-to-get-at electronic instrument contact points which have become corroded or dirty can be sprayed with a cleansing solution by this special atomizer. Device has a 5⅜ in. spray tube of 3/32-in. diameter which allows user to pinpoint spray without wasting the solution. One-hand operation is possible. Atomizer retails for about $2.95. Made by **DeVilbiss Co.,** Box 552, Somerset, Pa.

▲ For more details circle NED-428 D7 on enclosed inquiry slip ▲

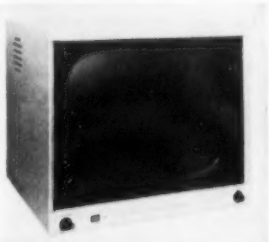
LARGE-DIAMETER SEALS
made in five standard cross sections



Method for producing Quad-Ring seals has resulted in availability of standard cross sections of 0.070, 0.103, 0.139, 0.210 and 0.275-in. in diameters of any size over 21 in. The seals have no parting line on sealing edges and eliminate spiral twist failures as they roll with pulsating pressures and leakage at low pressure differentials in reciprocating, rotary and static applications. Photo shows a 68-in. diameter seal and its cross section. Made by **Minnesota Rubber & Gasket Co.,** 3630D Wooddale Ave., Minneapolis 16, Minn.

▲ For more details circle NED-429 D7 on enclosed inquiry slip ▲

TELEVISION MONITOR
for closed circuit industrial use



Using an aluminized kinescope tube and 16-kilovolt accelerated voltage for bright, well-defined pictures, the model ARM-21 closed circuit industrial television monitor provides continuous remote viewing from industrial or broadcast cameras. Also incorporated are wideband video amplifier, electronically regulated power supply and polarized filter in front of picture tube. Only one video coaxial cable is required between camera control unit and monitor, which will synchronize with standard composite video signals. Monitor can be positioned up to 1000 ft from camera control unit without line amplifiers, or up to 4000 ft with amplifiers. Made by **Kintel,** 5725 Kearny Villa Rd., San Diego 11, Calif.

▲ For more details circle NED-430 D7 on enclosed inquiry slip ▲

NEW! Tissue-Thin Pylox™ Gloves

Nimble Fingers™ by PIONEER

Thinner than surgical gloves for jobs requiring extreme finger sensitivity. Wear all day in comfort. Resists normal acids, alkalis, oils, greases, some solvents. Smooth outside, textured inside . . . reversible for non-slip grip. Sizes small, medium, and large. Let PIONEER help you select proper gloves for your job from the complete PIONEER line.

The PIONEER Rubber Co.
234 Tiffin Road, Willard, Ohio, U.S.A. V-10

Please send me:
The name of my nearest PIONEER Glove Distributor.
1956-57 PIONEER Industrial Glove Catalog.
Hand Protection Clinic glove recommendation for job described in enclosed letter.

Firm _____
Address _____
City _____ Zone ____ State ____
Signed _____

Mail This Coupon Today

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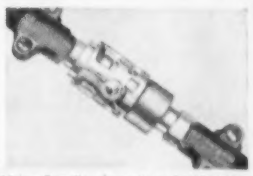
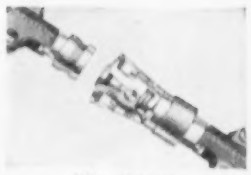
EXTRA HEAVY locking, safety type quickly detachable VALVE COUPLINGS



Valve Coupling Locked in "On" Position

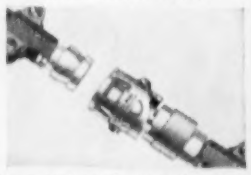
give the operator complete control of the air line at any point

Operator can shut off air and change tools quickly. Newly improved design permits the coupling to be locked in either "On" or "Off and Exhaust" position. Air in tool is exhausted to atmosphere automatically, preventing accidents. Pressure tight leak-proof construction — but free swiveling to avoid kinking the hose. For any application involving line air to 250 psi.



Valve Coupling Unlocked and Disconnected

Valve Coupling Locked in "Off and Exhaust" Position



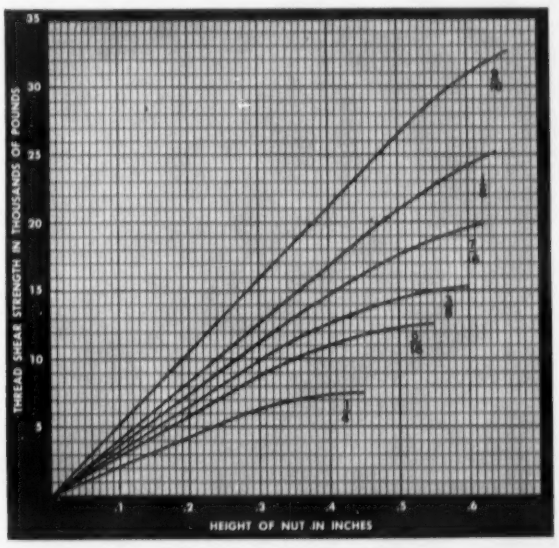
Write for Bulletin No. 551

Quick-As-Wink®

Air and Hydraulic Control Valves and Pressure Specialties

C. B. HUNT & SON, INC.
2105 E. PERSHING ST. • SALEM, OHIO

▲ For more details circle NED-432 D7 on enclosed inquiry slip ▲



Shear Strength . . .
Finished HEXAGON NUTS
fine and coarse threads

The above curves show how the proof load of a nut (the load causing the threads to strip) varies with its height. (The curves do not account for bolt characteristics or fatigue and safety factors.)

If you are buying load carrying capacity, the curves suggest that it may be more economical to:

1. Use a thicker nut—
2. Increase the fastener size—
3. Use more and smaller fastenings—
4. Use heat-treated nuts to develop full bolt strength (heat-treating increases nut proof load 30 to 50% over the above values)—

Variables of economical fastener design selection and assembly are discussed in the Engineering Data section of our catalogue that we will send upon request.

NATIONAL MACHINE PRODUCTS COMPANY

Manufacturer of Standard and Special "12 Pointer and Hexagon Nuts . . . "Huglock" and "Marsden" locknuts.

44231 Utica Rd., UTICA, Michigan

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More per hour with MEAD WORK FEEDERS

Feed work fast to drill, tap, broach, mill. Delivers, holds, ejects stampings, castings, screw machine parts up to 3"—thousands per hour. Combines with MEAD Timers and Drill Press Feeds for easy, cost-saving automation.

Send for new Air Power catalog today!
(See Thomas' Register for nearest distributor's address, phone number.)

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. NA-47 Chicago 41, Ill.
PATHFINDER IN AIR POWER AUTOMATION

For more details circle NED-434 D7 on enclosed inquiry slip

"OUR CJ TOOLING is fast and clean for heavy duty work on sheets, and we're also getting big profits from punching holes in channels, angles etc. That's a tough proposition for the average shop . . . but not for us! With our WALES equipment we cut vees and corners notches at the same time. It really boosts our production."

WALES CJ Units punch unlimited straight line staggered and scattered patterns . . . round or shaped holes. Die retention design features rapid die change WITHOUT REMOVING UNIT from set-up . . . provides controlled slug ejection. Time saving and money saving. Same units may be used over and over again in other patterns.

SEND FOR BULLETIN No. 21C
Shows actual job work and complete data of CJ sizes.

WALES MOBILE FIELD UNITS
Demonstrate CJ and other tooling right at your door. Ask for details.

WALES Strippit COMPANY
"...the Wales-Way is the PLUS-PROFIT way"
AKRON, NEW YORK
WALES-STRIPPIT OF CANADA LTD., HAMILTON, ONT.

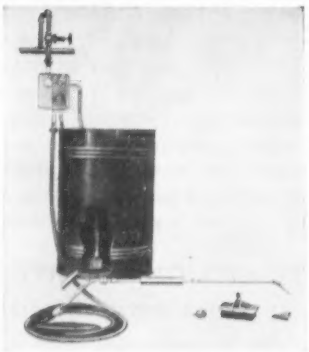
For more details circle NED-435 D7 on enclosed inquiry slip

WELDING POSITIONER
designed for close speed regulation

Accurate handling of weldments for all manual and automatic welding operations requiring close speed regulation is possible with the model 10P welding positioner. Load capacity is 1000 lb at 4-in. eccentricity and 4-in. center of gravity. Round table has a 29-in. diameter and four radial T-slots. It is driven by a 1/3-hp Servospeed electronic variable speed drive which has dynamic braking and jogging. Speed regulation is within 2 per cent of the set speed. Height adjustment from 27 to 42 in. is manual or motor-operated. Controls are at a remote pendant station. Made by **Worthington Corp.**, Positioning Equipment Div., 401 Worthington Ave., Plainfield, N.J.

For more details circle NED-436 D7 on enclosed inquiry slip

STEAM CLEANER
uses plant steam supply



Injector type Steamerette cleaning unit uses existing plant steam supply for steam cleaning, paint stripping, phosphating or sanitizing. It is easily operated by adjustment of one valve and uses 40 to 140-psi steam. Built-in pressure gage indicates the operating pressure, eliminates fluctuation and assures uniform cleaning. Unit will not clog or overheat and is portable. Steam is used to pick up and heat the cleaning solution and to furnish velocity. Operation also requires a 50-gal solution container, ½-in. ID steam hose and 150-gph water supply. Various types of nozzles are available. Made by **Turco Products, Inc.**, Dept. E-7, 6135 S. Central Ave., Los Angeles 1, Calif.

For more details circle NED-437 D7 on enclosed inquiry slip

Bronze & Steel Valves

Manning, Maxwell & Moore, Inc.—Globe, angle, gate, Flocontrol and other valve designs applicable to power, petroleum, chemical and general industry installations are described in 80-page catalog on Hancock bronze and steel valves. Materials specifications, flow charts, temperature and pressure ratings are given in the catalog.

For more details circle NED-438 D7 on enclosed inquiry slip

INTERNAL TUBE CUTTER

Let AIRETOOL'S New Internal Tube Cutter help cut *your* tube maintenance costs. An all new air-motor, designed and built by AIRETOOL, plus self-centering, double-action, hardened steel tool bits remove damaged or leaky tubes faster and easier than ever before. Positive feed control prevents gouging and burning, makes cutting out condenser and heat exchanger tubes easy every time.

Invaluable to all tube maintenance programs, AIRETOOL'S Internal Tube Cutter is also available with an electric motor, or as a compact push-type unit.

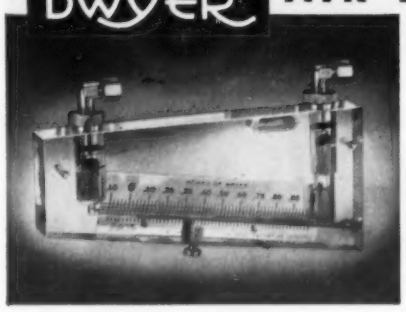
Write for illustrated literature on AIRETOOL'S new tube cutter.

BRANCH OFFICES: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge.
REPRESENTATIVES in principal cities of U. S. A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii.
EUROPEAN PLANT: Vlaardingen, The Netherlands.
"CANADIAN PLANT: Brantford, Ont."

AIRETOOL MANUFACTURING COMPANY
SPRINGFIELD, OHIO

For more details circle NED-439 D7 on enclosed inquiry slip

DWYER AIR FILTER GAGE



A constant visual check of filter efficiency on ANY system

Determines exact filter efficiency the *only* practical and economical way—via pressure drop. Dwyer's low first cost is repaid over and over thru savings in replacement and service time, plus maintained optimum filter efficiency.

Break-proof plastic construction, lifelong accuracy, simple installation, no moving parts to ever wear out or get out of adjustment. Six different scales. A complete unit with all necessary tubing, fittings, etc.

(Exclusive 3-way Dwyer Vent Valve, optional)

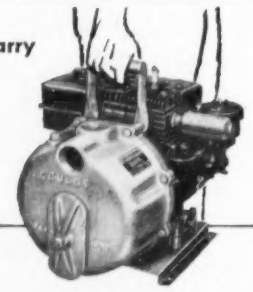
Write for informative catalog page

DWYER *Specialized* INSTRUMENTS and GAGES

F. W. Dwyer Mfg. Co., P.O. Box 373-Q, Michigan City, Ind.

For more details circle NED-440 D7 on enclosed inquiry slip

- One man can carry
- Self-priming
- Compact, nonclogging



Dimensions: 17" x 14½" x 15"

portable utility pump

Truly a mighty midget, this Goulds centrifugal pump weighs only 62 lbs. Yet it handles capacities up to 85 GPM, suction lifts up to 25 ft.

Self-priming. After first priming, pump stays primed—even if suction and discharge lines drain back.

Won't clog. Any solids up to 7/16" in diameter will pass through open impeller.

Easy to clean. Clean-out plate offers direct access to impeller eye and lower casing. No dismantling.

Easy to adjust. Separate guide vane provides adjustable clearance, makes impeller replacement easy.

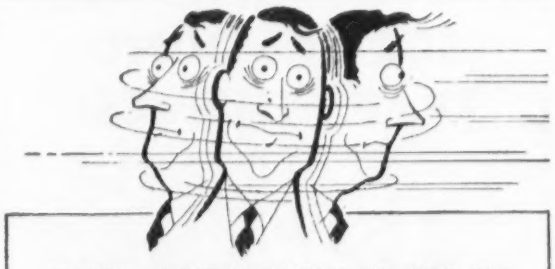
Won't overload. Impeller won't overspeed at shut-off or with engine throttled wide open; won't overload at open discharge.

For more information, write for Bulletin 639.1 on Goulds Fig. 3672 utility pump.

Goulds PUMPS INC. Seneca Falls, New York

Sales offices: Atlanta • Boston Chicago • Houston • New York Philadelphia • Pittsburgh • Tulsa

For more details circle NED-441 D7 on enclosed inquiry slip



IS YOUR INDUSTRY KEEPING UP WITH THE FAST-MOVING HEAT-CONTROL FIELD?

DO YOU KNOW ABOUT FENWAL'S MINIATURE AND MIDGET THERMOSWITCH® TEMPERATURE CONTROLS?

DO YOU KNOW THAT THE UNIQUE THERMOSWITCH PRINCIPLE MAKES FOR THE MOST RUGGED, RELIABLE THERMOSTATS?

DO YOU KNOW THAT FENWAL NOW MAKES EXTRAORDINARILY SMALL ONES FOR TIGHT SPOTS?

Designers — write to Fenwal Incorporated, 84 Pleasant Street, Ashland, Mass.

Fenwal Controls Temperature ... *Precisely*

For more details circle NED-442 D7 on enclosed inquiry slip

SHAFER® BEARINGS

CAPACITY FOR HEAVY-DUTY SHOCK LOAD SERVICE

Assure performance of your design with the high bearing capacity of Shafer Self-Aligning Roller Bearings. Shafer design combines the low rolling friction of a ball and high load carrying capacity of a roller—and maintains that capacity under shock loads, continuous heavy-duty loads—even under misalignment.

You can now get off-the-shelf delivery of standard pillow blocks, flange units, flange cartridge units, take-up and frame units. Call your CHAIN Belt District Office, Representative or Distributor today—or write for catalog 55A. CHAIN Belt Co., Shafer Bearing Division, 4686 W. Greenfield Ave., Milwaukee 1, Wis.

CHAIN BELT COMPANY
Milwaukee 1, Wisconsin

▲ For more details circle NED-443 D7 on enclosed inquiry slip ▲

Here's Just 3 Reasons Why So Many Welders Have Switched

- Wrap around Glass Fibre Tip Insulation—30% *more* heat resistance than any other make!
- Brilliant Red Tips and Trigger—Bright Yellow Handle—all Glass Fibre, an outstanding Safety Feature!
- Body completely insulated—no bare spots!

HI-AMP® ELECTRODE HOLDERS are the most economical to buy and maintain too!

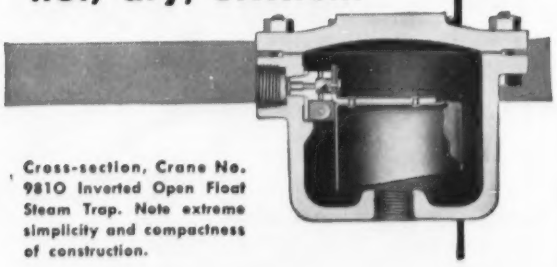
Just ask any Welding Supply Dealer *anywhere* for PROOF of the above statements.

LENCO, INC.
(Formerly Wagner Mfg. Co. Inc.)
JACKSON . . . . . MISSOURI

Weld with HI-AMP

▲ For more details circle NED-444 D7 on enclosed inquiry slip ▲

DESIGNED BY CRANE to keep your steam lines hot, dry, efficient



Cross-section, Crane No. 9810 Inverted Open Float Steam Trap. Note extreme simplicity and compactness of construction.

Crane Inverted Open Float Steam Traps drain condensate automatically and instantly—save fuel and maintain operating efficiency.

High discharge capacities in relation to size permit more compact installations. Available in working pressures from 1 to 300 pounds saturated steam, sizes ½ to 1 inch.

LITERATURE ON REQUEST—see your Crane Representative or write to address below.

CRANE VALVES & FITTINGS
PIPE • KITCHENS • PLUMBING • HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill.
Branches and Wholesalers Serving All Areas

▲ For more details circle NED-445 D7 on enclosed inquiry slip ▲

VARIABLE SPEED DRIVE
motorized, infinitely adjustable

Stepless speeds from 0 to 400 rpm are delivered by this packaged Zero-Max motorized speed reducer. Integral G-E 48-frame motor coupled through helical gears to any of eight models delivers 10 to 30 lb-in. torque with shaft rotation in either direction. Instant speed change is made with lever, whether unit is running or stopped. Optional screw control permits finer adjustment. It will operate in any position. Prices start at $65. Made by **Revco, Inc.**, Dept. NED, 1900 Lyndale Ave. S., Minneapolis 5, Minn.

▲ For more details circle NED-446 D7 on enclosed inquiry slip ▲

TINY INDICATOR LAMP
neon light operates on 110-125 v

Usable in subminiature indicator and pilot light assemblies, NE-2D neon glow lamp has an overall length of less than 1 in. Midget flange base facilitates installation and removal. Lamp operates on 110 to 125-v circuits in series with a tiny resistor. Power consumption is 0.1-w. Lamp withstands severe service conditions, and life expectancy is over 150 hours when used with a 62,000-ohm resistor. Retail price is 82 cents. Made by **General Electric Co.**, Lamp Div., Dept. 166-NED, Nela Park, Cleveland 12, O.

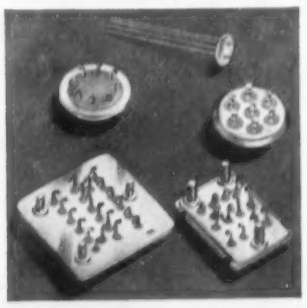
▲ For more details circle NED-447 D7 on enclosed inquiry slip ▲

SAFETY RELIEF VALVES
in 50 to 300-psi pressure ratings

Line of safety relief valves, made according to latest ASME and ASA B-9 codes for industrial refrigerating and air conditioning installations, includes pressure ratings from 50 to 300 psi in 25-lb increments. Materials used in these valves prevent corrosion and sticking due to "cold-welding." Dual valve assemblies assure operation of one valve while the other is removed for tests or resetting. Units have up to three times the relieving capacity of earlier models. Inlet sizes of ½, ¾, 1 and 1¼ in. are offered. Made by **York Corp.**, 111 Roosevelt Ave., York, Pa.

▲ For more details circle NED-448 D7 on enclosed inquiry slip ▲

NEW General Plate COPPER CORED Glass Sealing Alloy Wire



Increases Electrical Conductivity — Saves Time — Cuts Cost

Here's a case where two metals are much better than one. Built around a 30% copper clad core, General Plate Glass Sealing Alloy Wires have up to three times the electrical conductivity of solid lead wires of the same size.

This means you can substantially increase the current carrying capacity of your solid sealed leads without going to larger diameters or, if you have a miniaturization problem, you can reduce sealing wire diameters correspondingly by using General Plate Cored Wire.

General Plate Copper Cored Glass Sealing Wires are now available in #52 alloy, Type 446 Stainless, low carbon steel and other glass sealing alloys. Write for Technical Data Bulletin 706.

For full details on the complete line of General Plate Clad Metals, write today for your free copy of our new PR-700A Catalog.

You can profit by using General Plate Clad Metals

METALS & CONTROLS CORPORATION
General Plate Division
1804 Forest St.
Attleboro, Mass.

▲ For more details circle NED-449 D7 on enclosed inquiry slip ▲

LERMER PLASTIC CONTAINERS Help You Make Satisfied Customers

- ☑ They are shatterproof, assuring long life.
- ☑ They are 75% lighter than glass, effecting enormous savings in shipping.
- ☑ They are available clear or opaque in a multitude of lustrous colors.
- ☑ They can be handsomely decorated and printed during manufacture to carry your story.

LERMER PLASTICS, INC. 514 South Ave. Garwood, N. J.
REPRESENTATIVES IN THESE CITIES: Rochester, Memphis, Miami, Cincinnati, Columbus, Cleveland, Chicago, Detroit, Minneapolis, Philadelphia, San Francisco, Los Angeles, Toronto.

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS

▲ For more details circle NED-450 D7 on enclosed inquiry slip ▲

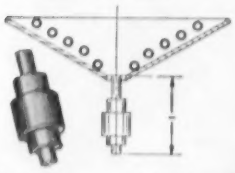
LepeL HIGH FREQUENCY INDUCTION HEATING UNITS

The Lepel line of induction heating equipment represents the most advanced thought in the field of electronics as well as the most practical and efficient source of heat yet developed for industrial heating.

If you are interested in induction heating you are invited to send samples of the work with specifications. Our engineers will process and return the completed job with full data and recommendations without any cost or obligations.

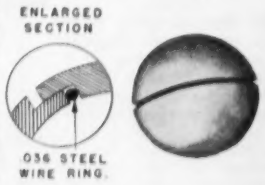
TYPICAL INDUCTION HEATING APPLICATIONS

TEMPERING FOR CUSTOM HEAT TREATING



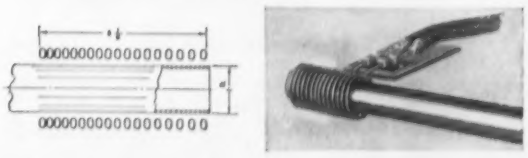
Selected areas of hardened steel parts may be tempered for fabrication or service requirements. Concentrator type coil permits high power density in restricted area thus minimizing heating time and permitting marked variation in properties in adjacent sections.

WIRE RING JOINS PLASTIC PARTS



High frequency induction heats wire ring which in turn heats plastic wall, providing sufficient plasticity to cause flow and bonding upon application of pressure. Metal to plastic seals are similarly performed.

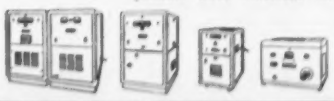
ANNEALING ALUMINUM FURNITURE TUBING



Selective annealing of aluminum furniture tubing permits bending where required without loss of strength in adjacent portions of tube. Brass or steel tubing is also being selectively annealed.

Electronic Tube Generators from 1 kw to 100 kw.
Spark Gap Converters from 2 kw to 30 kw.

WRITE FOR THE NEW LEPEL CATALOG . . . 36 illustrated pages packed with valuable information.



All Lepel equipment is certified to comply with the requirements of the Federal Communications Commission.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

▲ For more details circle NED-451 D7 on enclosed inquiry slip ▲

protect your records . . .

in a DIEBOLD ledger tray safe

A low-cost Diebold Ledger Tray Safe gives you complete protection for your vital records . . . the highest standards of economy and efficiency. Regardless of record sizes, ideal working height is always maintained. Easily made adjustments quickly adapt units to size and weight of ledgers. Present trays can often be used.

Diebold mobile Ledger Tray Safes will provide point-of-use fire protection for ledger records . . . improve posting efficiency . . . reduce costs. For complete information, write today.

Diebold INCORPORATED

When it comes to record protection, Diebold has the answer.

1008 Mulberry Rd., S.E., Canton 2, Ohio

For more details circle **NED-452 D7** on enclosed inquiry slip

CYCLONE-TYPE DUST COLLECTOR with 55-gal drum connections, draws in 2000 cfm of air

Largest cyclone separator unit in the Torit line, the 219-FB-55 dust collector, has been fitted with connections to easily handle 55-gallon drums. Collector is intended for use with machinery that creates large quantities of dust, buffing lint, chips or shavings. Powered by 5-hp, 3450-rpm motor, collector pulls 2000 cfm of air through its 8-in. inlet at static pressure of 2.8 in. of water and at an air speed of more than a mile a minute.

Centrifugal force precipitates all but the finest particles into the drums, while three after-filter bags trap the remaining fines. Air-tight seal on drum cover eliminates need for clamps. Drums can be changed in 30 seconds. Unit stands 104 in. high, 32 in. wide and 32 in. deep. Outlet diameter is 10 in. Made by **Torit Mfg. Co.**, Dept. NE, 287 Walnut St., St. Paul 2, Minn.

For more details circle **NED-454 D7** on enclosed inquiry slip

Get New Data on all 3 Infrared Heating Units!

Get New Bulletins Now!

fostoria

Whether you select components or complete ovens for swift, safe, sure processing . . . your one source of radiant equipment for all three sources of infrared heat is the pioneer manufacturer . . . *Fostoria.* Get better acquainted with this modern low-cost way to heat, dry, cure, bake and finish products, materials and parts. Write now and ask for "All 3 Infrared Bulletins." Address:

FOSTORIA PRESSED STEEL CORPORATION
Dept. 408 • Fostoria, Ohio

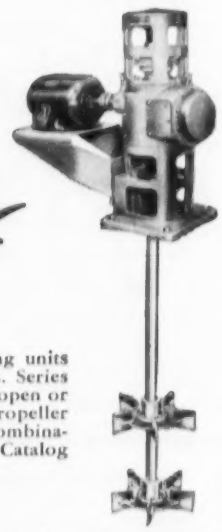
For more details circle **NED-457 D7** on enclosed inquiry slip

"Lightnin® Mixers"

mix fluids the easy, **economical** way

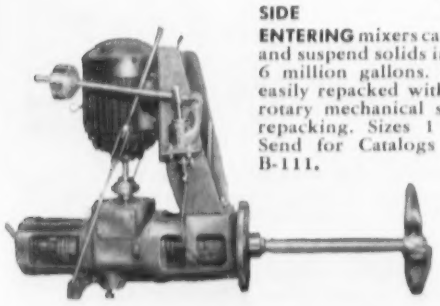
Just watch your productivity climb when you let a LIGHTNIN Mixer do the work now being done by hand or with old-fashioned equipment. Increased productivity means reduced costs — and less work.

You can get a LIGHTNIN Mixer for *any* fluid mixing job. Exact mixing results are guaranteed, or your money back.



PORTABLE MIXERS turn any open vessel into an efficient, low-cost mixing unit. Adjustable for slow-rolling or rapid double-action mixing. Thirty models, ⅛ to 3 HP; electric or air driven; direct or gear drive. Send for Catalog B-108.

TOP ENTERING or bottom entering units for larger-horsepower mixing jobs. Series "E" LIGHTNINS can be installed on open or closed tanks. Turbine, paddle and propeller types. Hundreds of power-speed combinations. Sizes 1 to 500 HP. Send for Catalog B-102.



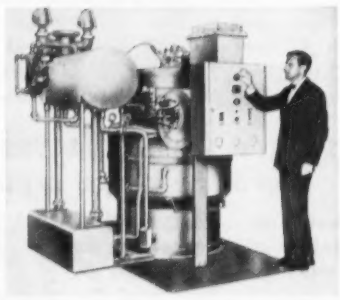
SIDE ENTERING mixers can mix, blend, and suspend solids in tanks up to 6 million gallons. Stuffing box easily repacked with tank full—rotary mechanical seal obviates repacking. Sizes 1 to 25 HP. Send for Catalogs B-104 and B-111.

FREE CATALOGS. Check the reader service slip for any catalog mentioned above. Or ask for Condensed Catalog B-109—it describes the full line and tells how to get free engineering help on fluid mixing.

MIXING EQUIPMENT Co., Inc.
165-d Mt. Read Blvd., Rochester 11, N.Y.
In Canada: Greey Mixing Equipment, Ltd., Toronto 10, Ont.

For more details circle **NED-453 D7** on enclosed inquiry slip

COMPACT HEATING BOILER packaged water tube 150-hp unit produces steam at 5 to 15 psi



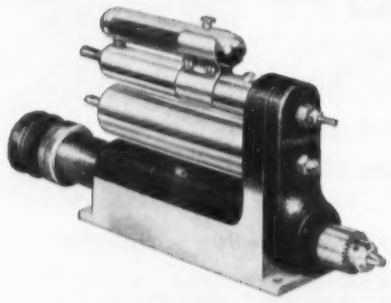
About one-third the size of conventional boilers of the same capacity, this 150-hp Modulastic water tube boiler produces 5 to 15-psi steam for industrial plant, commercial building and other heating requirements. Modified models will deliver up to 125-psi steam. This compact packaged unit measures only 8 ft high, 6½ ft wide and 8 ft long. Mounted on a steel plate, it has shipping weight of 7400 lb. It is shipped complete, merely needing service connections for operation.

Steam is developed in 5 minutes. Hot gases from a forced draft oil or gas fire wipe over and around four sets of steel coils. Turbine pumps circulate the water from the steam drum through the coils. Automatic controls are integral part of boiler, and safety controls conform to ASME and Hartford boiler codes. Fuel oil, city gas or combination oil/gas burners are available. Made by **Vapor Heating Corp.**, Dept. PR-59, 6420 W. Howard St., Chicago 31, Ill.

For more details circle **NED-455 D7** on enclosed inquiry slip

NEW LYNMATIC 101

the DRILL HEAD with 4 Advantages!



PRECISE . . . Air feed drill head has adjustable hydraulic feed control permitting accurate, constant speeds anywhere between stop and 200 feet per minute with rapid traverse to the work . . . Transparent hydra-control reservoir establishes open system that eliminates captured air problem and permits visual fluid checks . . . Sides and bottom machined square and parallel to spindle. Base width of 2" permits drilling to 2" centers with 2" stroke.

VERSATILE . . . Can be used with any 3 or 4-way valves. Or when used with Lynco Automatic Control Box CB-1 and Lynco Cycle Timer will perform varied operations to automatically drill holes properly up to ¼" diameter in almost any material.

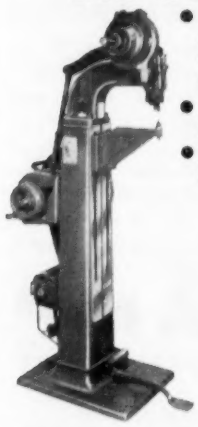
RUGGED . . . Long-life construction with only four moving parts.

ECONOMICAL . . . Cuts productions costs with proven LCPH (low cost per hole) operation.

LYNCO INC.
BURKLYN COMPANY, National Distributors
3429 GLENDALE BLVD. • LOS ANGELES 39, CALIF.

For more details circle **NED-456 D7** on enclosed inquiry slip

Tubular's model 81 the Versatile riveter



- ***AUTOMATICALLY* feeds and sets any style of *TUBULAR's* rivets up to 16/16" long x 9/64" diam. heavy setting or 3/16" diam. light setting.**
- **can permanently fasten *HUNDREDS* of different products.**
- **precision automatic setting to *SAVE* you hours of fastening *TIME* and *LABOR*.**
  - Motorized or pneumatic operation.
  - Has 10" throat.
  - Anvil Arm or Horn Adjustment of 19".
  - Rivet-setting speed limited only by speed of operator.
  - Single revolution clutch eliminates repeat settings, prevents damage to your products.
  - Accessories include dial tables, loop anvils, etc. for more economical fastening.

Fastening "the *Tubular* Way" — with a Model 81 single head automatic riveter will equip your production line with the most versatile of riveting machines. Hundreds of products are permanently fastened every hour of the day with this versatile machine. There is no limit to its uses. The savings you can realize in labor and assembly time can be substantial. ***For further information on this Model 81 or Tubular's other automatic riveting machines, write direct or call your nearest Tubular Branch Office.***

Tubular Rivet & Stud Company

BRANCH OFFICES
BUFFALO • CHARLOTTE
CHICAGO • DALLAS • DETROIT
INDIANAPOLIS • LOS ANGELES
NASHVILLE • NEW YORK CITY
PHILADELPHIA • ST. LOUIS
SAN FRANCISCO • SEATTLE

Wollaston (Quincy) 70, Mass.

See your local classified directory for phone numbers

For more details circle **NED-458 D7** on enclosed inquiry slip

STOPS PIPE THREAD LEAKS

PAT. PENDING

Satisfaction Guaranteed Or Money Back TRIAL OFFER

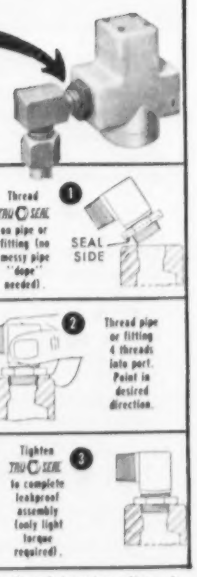
TRU-O-SEAL Fittings are guaranteed to seal pipe thread connections permanently against all oils, practically all known chemicals and gases; to seal under high pressures or vacuum; to withstand —280° to plus 500° F.; to eliminate "overtightening" damage and pipe dope. Available in ⅛" to 2½" pipe thread sizes.

$10.00 Trial Offer No. 1: eight ⅛", ten ¼", eight ⅜", ten ½" pipe thread TRU-O-SEAL Fittings.

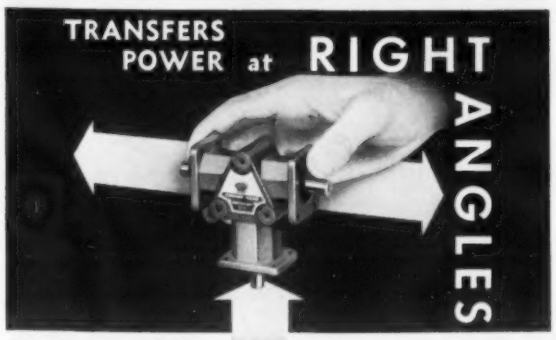
$10.00 Trial Offer No. 2: eight ½", ten ¾", four 1" pipe thread TRU-O-SEAL Fittings.

Send order to

TRU-O-SEAL DIVISION Flick-Reedy Corporation
2023 N. Hawthorne Melrose Park, Ill.
"Miller Fluid Power" is also a Div. of Flick-Reedy Corp.



For more details circle **NED-459 D7** on enclosed inquiry slip



CROWN MITRE GEAR UNITS

. . . are an ideal solution to all types of right angle needs, and are especially adaptable to confined areas. They're small, rugged, quiet, and precision made. Crown Gear Units have matched "Zerol" hardened gears which are mounted in double shielded ball bearings, and completely enclosed. Re-lubrication, if necessary, is easily accomplished, and four or five mounting flanges provide easy installation.

Special models will be engineered and quotations submitted for any specific problems. Write today for the name of your local distributor. Crown Gear Units are available almost everywhere. Write for engineering details.

CROWN GEAR
a division of Harrington & Richardson, Inc.

320 PARK AVENUE, WORCESTER 10, MASS.

Over 120 leading distributors in 43 States

Sold in Canada by H. & R. Arms Co., Ltd., Montreal 23, P. Q.

For more details circle NED-460 D7 on enclosed inquiry slip

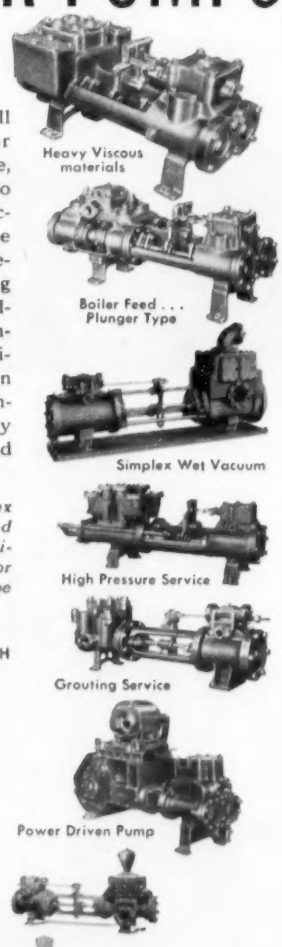
WAGENER PUMPS

FIT JOB REQUIREMENTS

Wagener pumps meet all requirements for power source, capacity, pressure, viscosity and resistance to abrasive and corrosive actions on each job. They are sturdily built for trouble-free pumping. Self-sealing pumcup packing and divided piston rods reduce maintenance costs to the minimum. They are available in price ranges suitable to anticipated usage. Delivery and service are prompt. Send for details . . . today.

Wagener simplex and duplex pumps in both piston and plunger types can be engineered to job specifications for pumping anything that can be pumped:

ACIDS	PAINT
ALCOHOLS	POTATO MASH
ASPHALT	PROTANE
BEER MASH	ROSIN
BRINE	SEWAGE
BUTANE	SOAP
CREOSOTE	SYRUPS
DYES	TAR
GLUE	TURPENTINE
GROUT	VACUUM SERVICE
LARD	VOLATILE LIQUIDS
LIQUOR	WATER
MILK	WOOD PULP
MOLASSES	
OILS	



WAGENER PUMPS

WAGENER PUMP DIVISION
CANTON STOKER CORPORATION
102 Andrew Place, S. W.
Canton 1, Ohio

CANTON STOKERS

N-466-CS

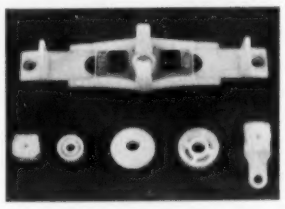
For more details circle NED-461 D7 on enclosed inquiry slip

MINIATURE DELAY RELAY
usable in missiles and jet aircraft

Vibration-resistant miniature thermal delay relay, shown at left, is specifically designed for use in both missiles and jet aircraft. Features include virtual elimination of contact chatter up to 1500 cycles per second at 10 g; no resonance at 500 cps; and good ambient compensation between −65 and 85° C (operation at higher temperatures when necessary). Contacts are rated 1 amp at 27 v dc, or 3 amp at 115 v ac. Sealed in metal shield, relays are offered in standard heater voltages and most-specified time delays. Unit is 2 in. high and has ¾-in. diameter. Made by **Thomas A. Edison Industries,** Instrument Div., West Orange, N. J.

For more details circle NED-462 D7 on enclosed inquiry slip

INJECTION MOLDING
performed on custom basis

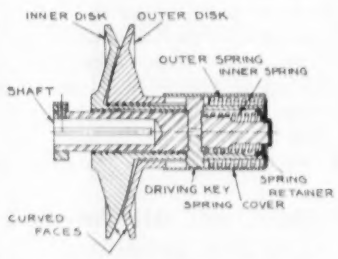


Custom injection molding of all types of industrial and consumer products is being performed in a new department of this company. Equipment is available for turning out a wide variety of parts from various plastics. Several examples are shown. Service available from **Stanley Chemical Co.,** Stanley Ave., East Berlin, Conn.

For more details circle NED-463 D7 on enclosed inquiry slip

VARIABLE SPEED PULLEYS
have speed ratio of 2½ to 1

Easily installed on new or old equipment, model 175 and 180 variable speed pulleys have no parts or mechanisms requiring periodic or frequent adjustment. They have a speed ratio of 2½ to 1 and are suited for use where speed changes are required to compensate instantly for variations in production schedules or differences in operator ability. Both models use B-section V-belts. Model 175 is rated at 2/3-hp at 1150 rpm and 1 hp at 1750 rpm, while No. 180 is rated at 1 hp at 1150 rpm and 1½ hp at 1750 rpm. Pitch diameter is 5.93 in. and length of bore is 2¾ in. Made by **Lovejoy Flexible Coupling Co.,** Dept. NDC, 4891 W. Lake St., Chicago 44, Ill.



For more details circle NED-464 D7 on enclosed inquiry slip

THE SHAPE OF THINGS IN MOLDED RUBBER

MOLDED BOOT MINUS STOCKINGS CUTS COST FOR LIFT TRUCK MANUFACTURER

A protective boot for hydraulic lift and tilt mechanism was needed by a manufacturer of gasoline powered lift trucks. In addition to having resistance to hydraulic oils, automotive greases, dirt and sunlight, it had to maintain good flexing qualities without checking or cracking.

The print specified a boot with stockinette base. Lab technicians at Acushnet successfully eliminated the use of stockinette as a base. The boot was compression molded entirely of an Apco neoprene compound. Further cost reductions were effected by dieing out the flange area and holes permitting a choice of various shaped mounting areas.

Result! Big savings in mold cost; cleaner, more precise parts.

Designing a new molded rubber or silicone part? Immediate technical assistance is available from Acushnet in part design, custom compounding and molding techniques.

What's Your Shape?

Send for Acushnet "Rubber Data Handbook."

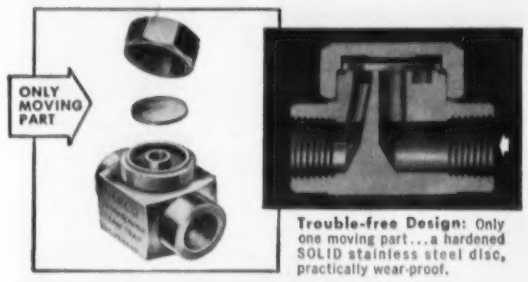
Acushnet **ACUSHNET PROCESS COMPANY**
NEW BEDFORD, MASSACHUSETTS

. . . *Precision Molded* RUBBER, SILICONES - "APCOTITE" BONDING

Address all communications to 782 Belleville Ave., New Bedford, Mass.

For more details circle NED-465 D7 on enclosed inquiry slip

SARCO TYPE TD THERMODYNAMIC STEAM TRAP



Trouble-free Design: Only one moving part . . . a hardened SOLID stainless steel disc, practically wear-proof.

NEW STEAM TRAP

EMPLOYS RADICALLY NEW PRINCIPLES

Kinetic energy of steam closes the valve!

• • •

MANY ADVANTAGES

1. No valve-closing mechanism to wear or stick.
2. *Same* TD trap for 10-600 psi . . . light or heavy loads . . . without seat or valve change or other adjustments.
3. Only *one* moving part . . . a hardened *solid* stainless steel disc . . . practically wear-proof.
4. Only 3 parts . . . cap, disc and body . . . all stainless steel.
5. No critical clearances to choke. No gaskets to leak.
6. Not affected by superheat, water-hammer, corrosive condensate.
7. Closes tight on no load.

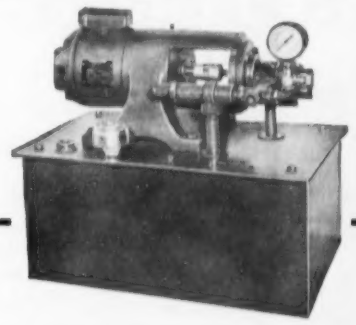
60-Day Trial Convinces

Ask for 60-day trial without obligation . . . specify size and use. Write for Bulletin 257.

2158-P

SARCO COMPANY, INC.
EMPIRE STATE BLDG., N.Y. 1, N.Y.

For more details circle NED-466 D7 on enclosed inquiry slip



GENESEE Low Pressure Pumping Unit . . . . . .

This is a new heavier duty motor-pump combination. Definitely the answer to high-cost hydraulics. It can be used for (1) accurate control of machine motions and pressures; (2) converting existing air equipment to hydraulic; (3) pressure testing devices or wherever linear or rotary motions are required.

Its initial pumping unit cost is approximately half that of conventional high-pressure systems.

Five new models are available from stock, complete with motor, adjustable relief valve, pressure gage, oil level gage and piped return. They handle from 4 to 9 gal. per min.; HP ranges from ¼ to 1.

GENESEE MACHINE BUILDERS, INC.
1731 HUDSON AVE., ROCHESTER 21, N. Y.

For more details circle NED-467 D7 on enclosed inquiry slip

in a matter of minutes you can

REPAIR DAMAGED GALVANIZED SURFACES

with AMCO galvanizing compound

AMCO No. 321 (Powder) flows freely, covers completely, will not damage area around the repair, makes a perfect bond with the base metal and surrounding zinc coating. Comes in 1, 10 and 100 lb. containers.

AMCO No. 322 (Stick) is the same as No. 321 but in stick form for convenience in repairing areas not easily accessible. Ideal for overhead repairs, wire cables, etc. Three sticks per pound.

AMERICAN SOLDER & FLUX CO.
19th and Willard Streets, Philadelphia 40, Pa.
FLUX MANUFACTURERS SINCE 1910

For more details circle NED-468 D7 on enclosed inquiry slip

DRILL 'EM
8 AT A TIME
IN ANY PATTERN
with a MULTI-DRILL

★ Covers area up to 22½"
★ Adjustable to any hole pattern
★ Fits any drill press

If you're drilling more than 1 hole in an area up to 22½" in diameter, you can save money and increase production with a MULTI-DRILL. Get full details—write for the Commander Production Tool Catalog today.

Want a demonstration in your plant? Write us and we'll arrange it with your nearby Commander Distributor.

Commander MFG. CO.
4220 W. KINZIE ST., CHICAGO 24, ILLINOIS

For more details circle NED-469 D7 on enclosed inquiry slip

J & H Submersible Motor

meets diverse pumping conditions

- Operates in water. Can be easily modified to operate in gasoline, crude oil and many other fluids.
- Flexible length/diameter ratio to fit casing, tank, pipeline or pump-motor condition you specify.
- Long service life, low maintenance.
- Horsepower ratings from ½ thru 5 hp at 3450 rpm.

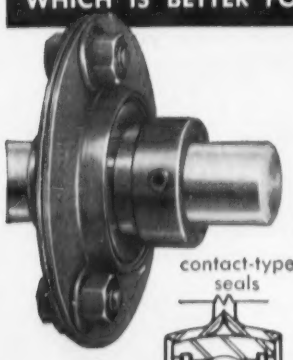
Send for Data!

For motor data, write on your company letterhead to: Jack & Heintz, Inc., 17629 Broadway, Cleveland 1, Ohio.

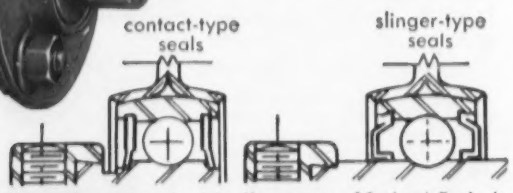
JACK & HEINTZ

For more details circle NED-470 D7 on enclosed inquiry slip

WHICH IS BETTER FOR YOUR PURPOSE?



FAFNIR BALL BEARING FLANGETTES are available with

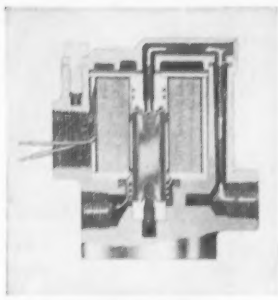


The Flangette equipped with slinger-type, Mechani-Seals is used extensively at higher speeds where slinger sealing action is most effective. Mechani-Seals are frictionless. They exclude dirt, retain lubricant effectively. This Flangette has a wide inner ring providing extra support area on shaft. The Flangette with contact-type Plya-Seals, designed for slower speeds, provides effective retention of lubricants and exclusion of contaminants even when subjected to unusually severe operating conditions. Dimensionally it is more compact than the other type. Both are factory prelubricated and both feature the famous Fafnir Self-Locking Collar. Send for complete details. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS MOST COMPLETE LINE IN AMERICA

For more details circle NED-471 D7 on enclosed inquiry slip

SOLENOID PILOTS are self-cooling and self-cleaning

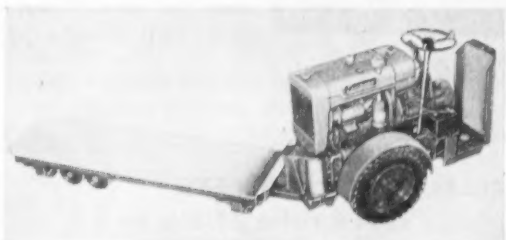


Capable of handling air, vacuum, oil, water and inert gases, Speed King solenoid pilots for direct subbase or manifold mounting are available in two and three-way types. Continuous internal cooling of the solenoid coil and the self-cleaning action of the plunger prevent overheating and assure long life. Operating medium, carrying entrained lubricant, passes through the center of the solenoid between the plunger and its tube. Multiple Hy-car seals protect coil which is encased in epoxy resin. These solenoids are also used on Speed King pilot-operated control valves. Coils are available for 3 to 300-v dc and 6 to 550-v ac service. Made by **Valvair Corp.**, 947 Beardsley Ave., Akron 11, O.

For more details circle NED-472 D7 on enclosed inquiry slip

JOINTED PLATFORM TRUCK power hauler maneuvers easily

The effect of four-wheel steering is given to Ar-tic-u-lated platform trucks by jointed design between the platform and power units. This pivot-in-the-middle design affords maneuverability in hauling heavy loads



of materials. Turning radius is dependent on the size of the platform which can be up to 12 ft or longer. The platform bed can be elevated vertically without tilting or swinging so that materials can be stacked close together in minimum of space. Power steering is optional. Capacities range from 7000 lb in the model P-7A up to 15,000 lb. Made by **Erickson Power Lift Trucks, Inc.**, 253-A St. Anthony Blvd. N.E., Minneapolis 18, Minn.

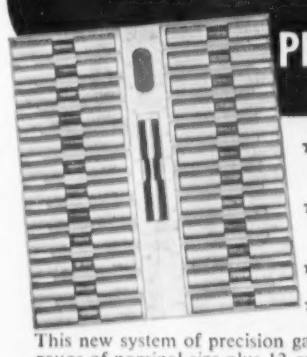
For more details circle NED-473 D7 on enclosed inquiry slip

Machine Tools, Attachments & Accessories

South Bend Lathe Works — Specifications, floor space requirements and other data on entire South Bend line, including engine, toolroom and turret lathes; vertical spindle milling machines, bench shapers; drill presses and pedestal tool grinders, are content of 80-page illustrated catalog 5700. Prices of machines and attachments, tools, chucks, benches and accessories are included.

For more details circle NED-474 D7 on enclosed inquiry slip

CLOSER TOLERANCES with DELTRONIC TENTH PLUG GAUGES



★ Size variation by ten thousandths
★ Available in increments of 1/64" from 1/8" to 1"
★ Also 1/16" & 3/32" sets
★ Hardness is Rockwell C62/C64

This new system of precision gauging provides one gauge of nominal size plus 12 gauges of increasingly larger sizes in .0001" increments and 12 gauges of decreasingly smaller sizes in increments of .0001". Each gauge is identified. It is the same size on both ends to double the life in usage.

For further information write Dept. D-NE

DELTRONIC CORPORATION
1507 RIVERSIDE DRIVE • LOS ANGELES 31, CALIF.

For more details circle NED-475 D7 on enclosed inquiry slip

Special Feature — Compartment identification!

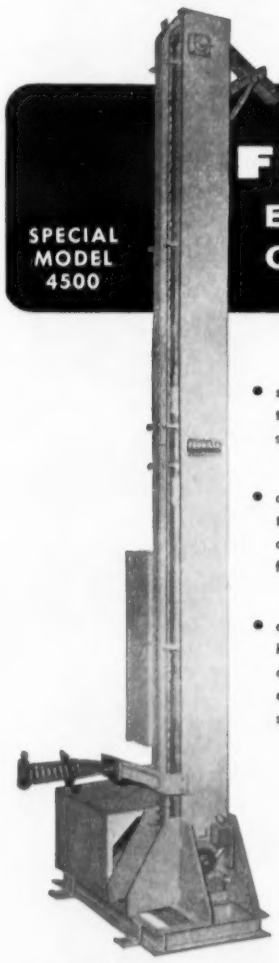
Lite-TUFF PLASTIC BOXES THAT CAN TAKE ABUSE . . .

made of Non-Flam* light weight plastic. Standard boxes available in a wide variety of compartment arrangements. Very tough, will not crack or shatter in normal use. Resistant to most chemicals—samples supplied for tests.
Full information and PLOT PLAN SHEETS sent upon request . . . Dept. B-19
* Reg. U. S. Pat. Off.

SHOE FORM CO. INC. AUBURN, NEW YORK

For more details circle NED-476 D7 on enclosed inquiry slip

speed small parts output ...with automatic feed



FEEDALL ELEVATING CONVEYOR
SPECIAL MODEL 4500

- speeds elevating transfer of piston pins, tappet bodies and similar short-length parts.
- adjustable from minimum 20" to maximum discharge height of 130" at any desired rate of feed.
- compact, self-contained. Has ¼ HP, variable speed drive. Special cam take-off for timing auxiliary units. Actual floor space: 24" x 36".

FASTER OUTPUT is only part of the story. This versatile Feedall machine provides fully automatic feed, with low operating cost and minimum upkeep. It occupies only small floor space and can be adapted to a wide range of production requirements. Added features include simple installation, rugged construction, proved results.

OTHER AUTOMATIC Feedall machines are available, including hopper units with elevating, blade, rotary and vibratory feeds. All may be combined with elevating transfer or through-feed conveyors.

NEW CATALOG gives full descriptive details. A request on your company letterhead will bring your copy promptly.

FEEDALL INCORPORATED WILLOUGHBY, OHIO

For more details circle NED-477 D7 on enclosed inquiry slip

SPECIFY GRIPCO LOCK NUTS

to resist stress, wear and vibration

They increase product durability at low initial cost

Simple one piece design — no inserts — no outside devices. Nothing complicated — the Gripco locking action is within the nut itself, yet you get low initial cost and low application cost with increased customer satisfaction. Speed production and lower manufacturing costs on your products now.

Send for samples and full particulars.

Gripco Products Include:

Gripco Lock Nuts • New Gripco "Clinch Nuts" Gripco Hi-Nuts • Gripco Pilot-Projection and Countersunk Weld Nuts

all with or without the famous Gripco positive locking feature. Also Standard Semi-Finish Nuts.

115

GRIP NUT COMPANY
106 Maple Ave. • South Whitley, Ind.

For more details circle NED-478 D7 on enclosed inquiry slip

EVERY ENGINEER will want a copy of this BULLETIN

WRITE FOR BULLETIN 113. Complete details and mounting dimensions on Hannifin Series "H" Square Type Hydraulic Cylinders—2,000 p.s.i. (3,000 p.s.i., non-shock) maximum pressure. This is the cylinder with the new, externally removable cartridge gland...the biggest improvement in cylinder design in the last 50 years. A complete line! 9 bore sizes from 1½" to 8"...13 standard mountings, many combinations. Steel heads. Steel cylinder bodies, "TRU-BORED" and honed. Piston rods ground, polished and hard chrome plated. Send for Bulletin 113. It's an easy, convenient catalog for use in layout work.

HANNIFIN

Hannifin Corporation, 527 South Wolf Road, Des Plaines, Ill.
Air and Hydraulic Cylinders • Presses • Air Control Valves

For more details circle NED-479 D7 on enclosed inquiry slip

Balance Rotating Parts

FASTER...EASIER

USE Anderson BALANCING WAYS

No setup, no leveling, no centering. Chilled iron discs, ground and balanced to extreme accuracy, rotate with minimum friction on special bearings. Glass-hard spindles and bearings prevent wear or ball-bearing indentations when balancing heavy weights. Superior accuracy lasts throughout the long life of the balancing ways. Proved and preferred 38 years. For information on sizes, types, and prices of Anderson Ways, write for Bulletin 4-40.

Anderson

Write for Bulletin 4-40

ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

For more details circle NED-480 D7 on enclosed inquiry slip

MINIATURE BATTERY
1½-v cell measures ⅛ x 0.44-in.

Usable in miniaturized equipment, Eveready W-307 energizer is a single cell battery with a nominal rating of 1.5 v. Weighing 1/20-oz, it has 0.44-in. diameter and ⅛-in. thickness. It develops 60 milliampere-hours to a cutoff voltage of 1.3 v. Recommended top average current drain is 60 microamperes. It will withstand shock, vibration and acceleration. Present application is to power the Hamilton electric wrist watch, in which service it lasts a year. Made by **National Carbon Co.**, Dept. 1325, 30 E. 42nd St., New York 17, N. Y.

For more details circle NED-481 D7 on enclosed inquiry slip

ROTARY VANE TYPE PUMPS
capable of handling corrosives

Capacities of 35 to 275 gph are offered in line of rotary vane type positive displacement pumps. They develop pressures up to 300 psi, have a suction lift of 28 in. of mercury and are suitable for handling water, fuel and hydraulic oils, gasoline, detergents and many chemicals, including ammonia. The pumps are made of bronze, stainless steel or aluminum, combined with carbon graphite. Absence of metal-to-metal contact makes them quiet in operation. They have a built-in adjustable relief valve and can be run dry for long periods without damage. Made by **Procon Pump & Engineering Co.**, 12721 Capital Ave., Oak Park 37, Mich.

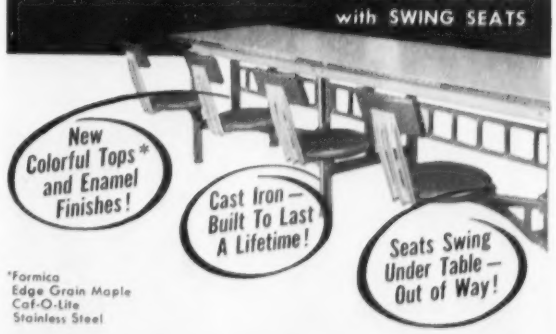
For more details circle NED-482 D7 on enclosed inquiry slip

SAFETY LADDERS
8 to 12-step models roll easily

Foot pressure easily locks this line of Safety-Step ladders to the floor by raising casters and lowering the front legs. Models with 8 to 12 steps are offered with ½-in. 13-gage or ¾-in. 12-gage expanded metal steps which assure a firm footing for the user. Protective railing at side and top is a safety feature. Ladder is offered in gray, yellow, green and aluminum colors. Made by **Tri-Metal Ladder Co.**, Dept. NED, Berwyn, Pa.

For more details circle NED-483 D7 on enclosed inquiry slip

INDUSTRIAL AND INSTITUTIONAL
SECTIONAL TABLES
with SWING SEATS



*Formica
Edge Grain Maple
Caf-O-Lite
Stainless Steel

MAXIMUM SEATING CAPACITY IN LIMITED SPACE!

Colorful tops and wide range of enamel paint finishes add attractive new color to industrial and institutional dining rooms and recreation rooms. Units seat 4 to 24 people. Attached seats (with or without backs) swing under table to eliminate crowding, noise and confusion of loose chairs and tables. Ideal for industry, schools, hospitals and institutions.

WRITE TODAY For NEW Catalog!

DISTRIBUTORS IN ALL PRINCIPAL CITIES
The Chicago Hardware Foundry Co.
"Dependable Since 1897"
1947 Commonwealth Ave.
North Chicago, Ill.

For more details circle NED-484 D7 on enclosed inquiry slip

REVOLUTIONARY STEAM TRAP

One large capacity seat for all pressures — 10 to 600 psi!

MANY ADVANTAGES

1. Cuts steam trap inventory — you use same Sarco TD... with same large capacity seat for 10 as for 600 psi. No changes or adjustments.

2. Operates equally well on light, heavy or no condensate loads.

3. Operates perfectly when pressure fluctuates...even from 600 to 10 psi!

4. No oversizing worries...no risk of blowing steam on light condensate loads. No prime to lose. No adjustments.

5. Practically no maintenance ...only a body, cap and valve disc...all stn. steel. No valve mechanism.

60-day Trial Convinces

Specify size (⅜ to 1") and use. Write to Sarco Company, Inc., Empire State Bldg., New York City. 8182-P

SARCO

For more details circle NED-485 D7 on enclosed inquiry slip

RAYMOND HYDRAULIC EQUIPMENT

PORTABLE ELEVATING TABLE

Positions work, supports long pieces, simplifies die handling. Telescopic and non-telescopic models. Capacity: 2,000 lbs.

RAYMOND

LIGHTWEIGHT PALLET TRUCK

Rugged, maneuverable, 270° turning radius. Separate lift and lower pedals. Capacity: 2,000 lbs. 4,000 and 6,000 lb. cap. trucks also available.

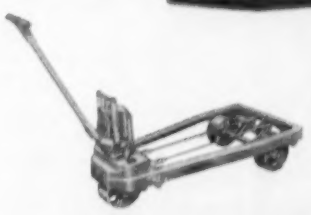
RAYMOND

SHEET FEEDING TABLE

Raises sheets, strips to right working level. Increases production, makes work safer, easier. Capacities: 2,000 to 30,000 lbs.

RAYMOND

SKID TRUCK



Sturdiest skid truck made! 360° turning radius for close-quarter steering, plus finger-tip lowering. 3 cap.: 2,500; 4,000 or 6,000 lbs.

MAIL THIS COUPON

The RAYMOND CORPORATION
4130 Madison St., Greene, N.Y.

Please send Bulletins on RAYMOND Hydraulic Equipment checked below:

☐ 4,000 and 6,000 Lb. Cap. Pallet Truck
☐ Portable Elevating Table ☐ Sheet Feeding Table
☐ 2,000 Lb. Cap. Pallet Truck ☐ Skid Truck

NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-486 D7 on enclosed inquiry slip

stop this costly nuisance with...

SEALS TIGHT • BREAKS RIGHT

For lines carrying water, gas, low-pressure steam, etc. Seals positively, yet will not freeze in the joints. Try it on your next pipe sealing job. Write today for free sample.

W-K-M
DIVISION OF acf INDUSTRIES INCORPORATED

Plant: Missouri City, Texas • Mailing Address: P.O. Box 2117, Houston, Texas

For more details circle NED-487 D7 on enclosed inquiry slip

1 *For safe, clean, simplified handling of parts between successive production stages. Contents always accessible, visible—protected.*

HOW PALLETAINERS® can help your *management* cut Costs...

2 *Palletainers save time in the shipping department, increase safe truck and rail loading capacities and eliminate transit damage. For return shipment or storage, folded Palletainers save 75% of space and receive lowest freight rates.*

3 *When storage or warehouse space is at a premium, look to Palletainers. They'll stack to the roof with safety and you can inventory their contents at a glance!*

If you store, process or ship materials of *any* kind...*You need Palletainers.**

Because...Palletainers provide fast, efficient low cost unit handling!

Because...Palletainers reinforced construction makes them almost indestructible.

Because . . . There's a size, capacity and type to match every conceivable need.

Because...It's "profit-wise" to keep materials, parts and finished products moving efficiently and economically . . . through production, temporary storage, in-plant transport or long distance hauling.

It will pay you to investigate USP Palletainers . . . they'll help you cut costs where they really count!

The Palletainers you purchase today will quickly pay for themselves in man hour and equipment savings. Put them to work today.

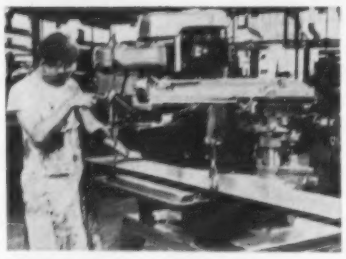
***Fluid loads? Sure . . . Bulk Lode Palletainers equipped with heavy duty liners simplify all fluid load handling.**

WRITE—WIRE OR PHONE

UNION STEEL PRODUCTS CO.
Albion, Michigan

For more details circle NED-488 D7 on enclosed inquiry slip

RADIAL DRILL PRESSES
spindle can be moved to work

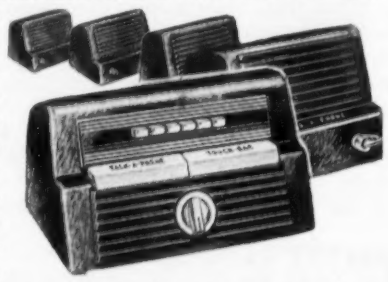


Spindle of improved line of radial drill presses moves to the work, as the head moves in and out through an 18-in. travel radius on a traveling ram. Drilling to the center of a 62-in. circle is possible. Head, ram and cradle swivel 360 degrees around the column to permit drilling anywhere on the table which is equipped with four T-slots and an oil trough for coolant piping, or on work too large for the table. Head tilts 45 degrees and locks on both sides. Fifteen speeds from 160 to 8300 rpm are obtained with a 1740 rpm motor. Sanding drums, tapping heads, chip breakers, multiple drills and other standard drill press attachments can be used. Twenty-four models are available with 4¼ or 6-in. spindle travel and 30 or 42-in. long columns. Made by **Rockwell Mfg. Co.**, Walker-Turner Div., Dept. NED, 400 N. Lexington Ave., Pittsburgh 8, Pa.

For more details circle NED-489 D7 on enclosed inquiry slip

INTERCOMMUNICATION SYSTEM
wireless system has six channels

Six-station model LCM-8806 selective wireless intercommunication system can operate on any one of its six channels without interference with other communication within the system. It features selective wireless staff stations and selective paging with reply. Staff stations can be used in combination with selective wireless masters, separately or in groups of two or more stations to provide individual wireless systems. Conference calls are also possible. A "sonic gate" suppresses line noises and hum during operation and in stand-by position. Additional units are permanently or temporarily added merely by plugging them into conventional electric outlets. Made by **Talk-A-Phone Co.**, 1512-Q S. Pulaski Rd., Chicago 23, Ill.



For more details circle NED-490 D7 on enclosed inquiry slip

Industrial Lubricating Devices

Gray Co.—32-page catalog No. 403 pictures and gives details of automatic and air-powered industrial lubricating equipment, paint and mastic spray units and accessories. Types and sizes are available for every industrial and commercial need.

For more details circle NED-491 D7 on enclosed inquiry slip

HOW TO INCREASE PAINT SPRAY BOOTH EFFICIENCY—AND LOWER COSTS!

Photo Courtesy Globe Hoist Co., Philadelphia, Pa.

RP PAINT ARRESTORS REDUCE MAINTENANCE, FLOOR-SPACE REQUIREMENTS, AND DOWNTIME

Efficiency and economy were combined to improve the paint spray operation in this booth illustrated. RP Paint Arrestor Pads trap overspray, are easily, inexpensively replaceable and adaptable to almost every type operation. If you spray paint—check the RP Paint Arrestor way to saving and efficiency.

WRITE FOR FREE BOOKLET

Helpful, informative suggestions to solve your paint spray booth problems. Write today.

RESEARCH PRODUCTS CORPORATION
Dept. 32 Madison 10, Wis.

RP . . . PRODUCTS OF RESEARCH

For more details circle NED-492 D7 on enclosed inquiry slip

SURETY GRIPTITE
ROUGH FINISH COATED FABRIC GLOVES

PROVIDE POSITIVE GRIP AND RESISTANCE IN OIL, GREASE, ACIDS AND SOLVENTS

PROVED more wear per pair

Available in knit wrist, safety cuff or gauntlet style and in full or palm coated types, Surety offers you the answer to safety, service and hand comfort with these coated fabric gloves. A vinyl base combined with a Sureseal (Hycar) rough finish Surety Griptites achieve the long life and claw-grip qualities particularly needed when working in oils, greases and slippery solvents. Write for bulletin today. Dept. N

THE SURETY RUBBER CO.
CARROLLTON, OHIO
In Canada: Safety Supply Co., Toronto

For more details circle NED-493 D7 on enclosed inquiry slip

- Pump Controls
- Duplex Pump Alternators
- High and Low Level Cutoffs
- High and Low Level Alarms
- Multi-Level Signals
- Liquid Metering
- Special Controls and Panels

Write for 32 Page Catalog

Listed by Underwriters Laboratories

CHARLES F. WARRICK CO.
1962 W. Eleven Mile Rd.
Berkley, Mich.

Warrick
FLOATLESS
LIQUID LEVEL CONTROLS
ELECTRODE TYPE

For more details circle NED-494 D7 on enclosed inquiry slip

SELECTROL
Weighs, Sorts and Classifies Every Package

This machine is designed for high-speed package production lines. It weighs accurately in motion with no interruption of package flow or spillage. Overweights and underweights are smoothly diverted from line for trimming. Weight tolerances are adjustable. Rejection accuracy can be held to one gram, plus or minus, at speeds up to 100 per minute. Write for complete details.

VISIT OUR BOOTHS 626-628
NATIONAL PACKAGING EXPOSITION
APRIL 8-11

Exact Weight Scales
Better quality control
Better cost control

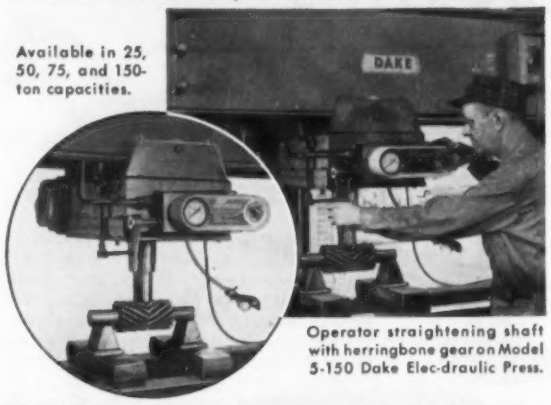
THE EXACT WEIGHT SCALE COMPANY
930 W. Fifth Avenue, Columbus 8, Ohio
In Canada: P. O. Box 179, Station S, Toronto 18, Ont.

For more details circle NED-495 D7 on enclosed inquiry slip

DAKE *Elec-draulic* PRESS

OPERATES EASIER, FASTER...COSTS LESS!

Available in 25, 50, 75, and 150-ton capacities.



Operator straightening shaft with herringbone gear on Model 5-150 Dake Elec-draulic Press.

COMPLETELY NEW, this Dake electric-hydraulic forcing and straightening press offers operating advantages never before available in a low-cost shop press. *Rapid Ram Approach* automatically changes to power stroke when it contacts the work. *Variable Ram Speed* from zero to maximum under finger-tip control. *Movable Workhead,* self-contained—easy to center over work. Workhead can be purchased separately. *Modern Design,* all operating controls at convenient working height. Write for Bulletin 347.

DAKE PRESSES

DAKE CORPORATION
642 Seventh Street, Grand Haven, Michigan

For more details circle NED-496 D7 on enclosed inquiry slip

PRECISION BALLS of

Tungsten Carbides*	Magnesium	Nylon*
Chromium Carbides	Hastelloys*	Teflon*
Hard Cast Alloys	Stainless Steels	Copper
Titanium	High Speed Steels	Carbon
Zirconium	Synthetic Sapphire*	Pyrex Glass*
Aluminum*	Silver	Ceramics

. . . and all other workable materials

*Stocked in standard sizes.

All Sizes — Standard and Special
from 1/64" to 12" or larger, depending on material.

Experimental or Production Quantities

ALSO hollow balls — plated balls — balls with second-operation work. *Engineering service* on request.

WRITE FOR quotation and descriptive bulletin.

INDUSTRIAL TECTONICS, Inc.
3664 Jackson Rd., Ann Arbor, Michigan
18325 Santa Fe Ave., Compton, California

PRECISION BALLS OF ANY SIZE OR MATERIAL
ANTI-FRICTION BEARINGS FOR SPECIAL REQUIREMENTS
TOOLING BALLS — MASTER BALLS — SPHERICAL FINISHING

For more details circle NED-497 D7 on enclosed inquiry slip

COMPLETE
steam cleaning facilities
AT A FRACTION OF THE USUAL COST

Write for FREE illustrated folder on the ...

TURCO STEAMERETTE (operates on plant steam)

for cleaning, paint stripping, phosphating, sanitizing...

- Only 1 valve to operate
- Operates on 40-140 psi steam
- Easily installed
- Economically maintained

TURCO PRODUCTS, INC.
Chemical Processing Compounds
6135 South Central Ave., Los Angeles 1, Calif.
Factories: Newark, Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Naha (Okinawa)
Offices in all Principal Cities

For more details circle NED-498 D7 on enclosed inquiry slip

CONVERSION FACTOR CHART
has many commonly used factors

Wall chart of many commonly used and some hard-to-find conversion factors is available free of charge to engineers, shop men and interested executives. Included are linear, power, speed, atmospheric pressures, cubic and weight conversion factors. Available from **Precision Equipment Co.,** Dept. NED-4, 3716 N. Milwaukee Ave., Chicago 41, Ill.

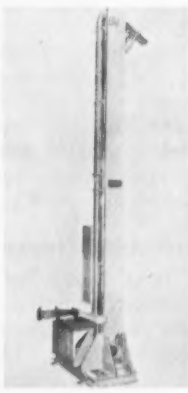
For more details circle NED-499 D7 on enclosed inquiry slip

PLASTIC PAIL
made of polyethylene, holds 4½ gal

Free-swinging chrome plated bail with molded plastic hand grip, wide mouth to accommodate almost any type of brush or mop and rolled top rim are features of the 4½-gal capacity Plas-Tex polyethylene pail. It can be used for handling muriatic acid, small parts and dry or liquid materials. Lightweight dent and chipproof container can be washed to sanitary cleanliness. Four colors are available. Price is $3.98. Made by **Plas-Tex Corp.,** 2523 Military Ave., Los Angeles 64, Calif.

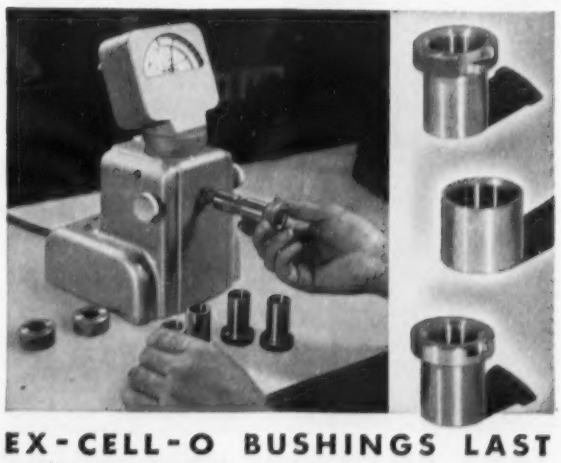
For more details circle NED-500 D7 on enclosed inquiry slip

ELEVATING CONVEYOR
lifts short-length parts 130 in.



Short-length parts are elevated from minimum 20-in. height to 130 in. and fed automatically at any desired speed by model 4500 elevating transfer conveyor. Machine accepts parts in rolling position and feeds them into production machine, assembly line or packing unit. Piston pins and tappet bodies are typical of parts handled. Equipped with variable speed drive, conveyor has timing take-off from cam mounted on lower shaft. Power is furnished by ¼-hp 220/440-v motor. Unit can be modified for individual requirements. Made by **Feedall, Inc.,** Dept. ND, 38399 Pelton Rd., Willoughby, O.

For more details circle NED-501 D7 on enclosed inquiry slip



EX-CELL-O BUSHINGS LAST TWICE AS LONG
Tests prove—there *is* a difference in bushings

After drilling 16,300 holes, a large manufacturer tested leading bushing brands for wear. Wear on other makes averaged .0039—ready for scrap. Ex-Cell-O Bushings averaged .0017, offering *twice as much service!*

Call your Ex-Cell-O Representative or write to Ex-Cell-O in Detroit for Bushing Catalog.

XLO
EX-CELL-O FOR PRECISION
56-60

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

For more details circle NED-502 D7 on enclosed inquiry slip

QUALITY DIE CASTERS:
Where You Want Perfect Die Castings with a Hardware Finish, Use

IMS PURE SILICONE MOLD LUBRICANT

FOR CLEANEST DIE CASTINGS

- NON-SMOKING!
- No Carbonaceous Deposits
- QUICK-EASY TO APPLY
- Handy Pressurized Can

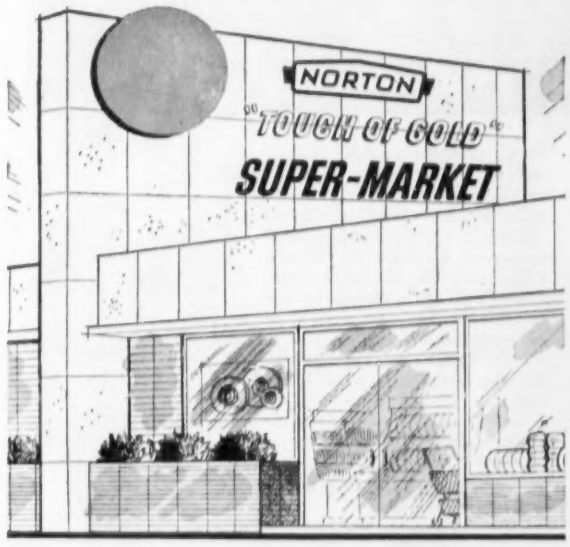
LASTS LONGER BETWEEN DOSES!

PRICES (Delivered)

1 to 11 Cans, ea.	$2.00
Unbroken Doz.	$18.00
Unbroken Gross	$197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE ROAD • WYoming 1-1424 • CLEVELAND 20, OHIO

For more details circle NED-503 D7 on enclosed inquiry slip



Norton is your SUPER-MARKET for tool room grinding wheels

"Everything under one roof" is the modern super-market advantage of Norton wheels — the world's largest line that meets every tool room grinding need. For example:

Norton G Bond and BE Bond Wheels for sharpening and other grinding operations on all steels. In 32 ALUNDUM*, 38 ALUNDUM, 19 ALUNDUM, or the new non-premium priced 44 ALUNDUM abrasive.

Norton Diamond Wheels for carbide grinding. In Norton-pioneered resinoid bonds for wet or dry grinding. (For many carbide grinding jobs Norton K Bond CRYSTOLON* wheels are often most economical.)

For Die and Mold finishing Norton mounted wheels bring you big savings on tool room jobs.

Learn how to add the "Touch of Gold" to tool room grinding. See your Norton Distributor listed under "Grinding Wheels" in the yellow pages of your telephone directory or **write to Norton Company, Worcester 6, Mass.** Distributors in all industrial areas.

V/-1762

NORTON ABRASIVES

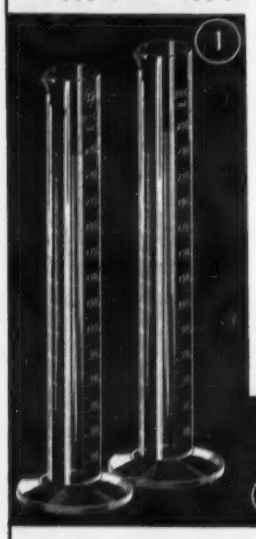
Making better products . . . to make your products better

NORTON PRODUCTS:
Abrasives • Grinding Wheels • Grinding Machines • Refractories
BEHR-MANNING PRODUCTS:
Coated Abrasives • Sharpening Stones • Behr-cat Tapes

*Trade-Marks Reg. U. S. Pat. Off. and Foreign Countries

For more details circle NED-504 D7 on enclosed inquiry slip

make sure...
make the "two-way" test



Make sure that you get the highest quality laboratory glassware for the lowest possible price by making the "TWO-WAY" Test.

TO MAKE THE "TWO-WAY" TEST!

STEP 1. Obtain samples of several advertised brands of laboratory glassware. Be sure to include a piece of Doerr Diamond D Blue Line. Devise the most rigid tests you can think of and evaluate each brand on the basis of these tests. Tabulate the results.

STEP 2. Now, compare the prices. You will find that the Doerr Diamond D Blue Line is your best buy . . . offering the highest quality for the lowest possible price.

Ask your dealer about the Diamond D Blue Line or send for more detailed information today.

DOERR GLASS COMPANY
Vineland, N. J.

For more details circle NED-505 D7 on enclosed inquiry slip

FASTER, BETTER BRAZING
for ALUMINUM ASSEMBLIES

Dip brazing in an Ajax Electric Salt Bath Furnace puts the fabrication of aluminum assemblies on a low cost mass production basis.

All joints are brazed simultaneously—in a matter of seconds. Close tolerances are assured. Clean, high quality brazes are obtained by either clad, wire, shim or paste methods. Production is increased because of fast salt bath brazing. Costs are reduced. Write for case history bulletins. Let Ajax's Metallurgical Service Lab demonstrate dip brazing on your assemblies at no obligation.

AJAX ELECTRIC COMPANY
103 Allen Street
Philadelphia 23, Pa.

TYPICAL
Complicated aluminum heat exchangers that withstand 1000 psi pressures and 300°F. to 500°F. temperatures are brazed in this Ajax salt bath in a matter of seconds.

For more details circle NED-506 D7 on enclosed inquiry slip

delivers keyways for 1¢

With a *Minute Man* Keyway Broach Kit you can cut a keyway for as little as one cent in just *one minute.* Handles keyways from 1/16" to 1" in any bore from 1/4" to 3".

Minute Man Broaches for square and hexagonal holes and Production Type Keyway Broaches are also available from stock at your Industrial Distributors'.

MAIL TODAY—SAVE TOMORROW

The duMONT CORPORATION, Greenfield, Mass.
MAIL FREE BROACH CATALOG AND PRICE LIST D describing Square Broaches, Hexagon Broaches, Production Type Keyway Broaches and Keyway Broach Kits to

Name .....
Company .....
Address .....

For more details circle NED-507 D7 on enclosed inquiry slip

CUTTER GUARDS
protect cutter, operator, machine

Hands of the operator are protected from the sharp edges of teeth on a multiple-tooth cutter by Cy-CO-Trol cutter guards. They can be used while assembling or disassembling the cutter at the machine and in handling it during sharpening. Guards also protect the cutter blades in transit, while inoperative on the machine and from damaging finished parts during machine setup. They are made of spring steel and held by a spring pressure band, to which loops are attached for easy handling. A tough plastisol coating protects the cutter teeth. Guards are available for any size cutter from 4 to 20 in. diameter, or for larger sizes, special cutters or cutoff saws on order. Made by **Royal Design & Mfg., Inc.,** 4135 E. Ten Mile Rd., Center Line, Mich.

For more details circle NED-508 D7 on enclosed inquiry slip

SIGNAL GENERATOR SYSTEM
measures, controls process variables

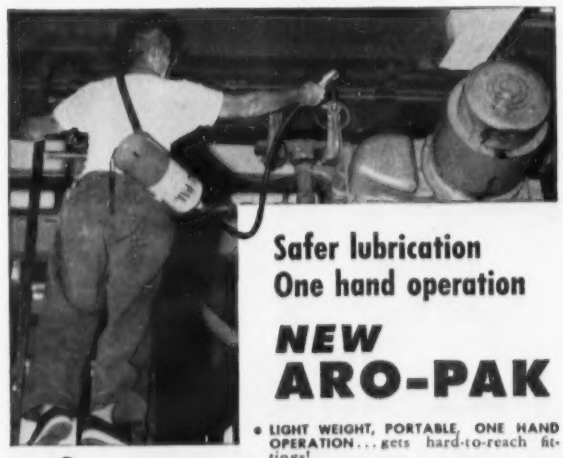
This ElectroSyn signal generator system is used to measure, indicate, transmit and control such process variables as pressure, differential pressure, flow, liquid level and temperature. System consists of a signal transmitter (transducer), a power unit (magnetic servo amplifier) and a null-balance indicating receiver. In measuring pressure or flow, signal transmitter, by means of a twisted Bourdon tube or bellows, converts the process variable into shaft rotation of the ElectroSyn, a rotary differential transformer. Output from transmitter is voltage proportional to the variable, up to 12 v ac. When measuring temperature, transmitter acts as a temperature sensitive resistor, and the ElectroSyn is replaced by a precision potentiometer. Made by **Detroit Controls Corp.,** Norwood Controls Unit, 940 Washington St., Norwood, Mass.

For more details circle NED-509 D7 on enclosed inquiry slip

Industrial Tractors & Accessories

John Deere Industrial Div.—Crawler and utility wheeled industrial tractors for wide range of industrial and construction needs are described in illustrated manual "Industrial Tractors and Equiment." Accessories described include loaders, bulldozers, mowers, scoops, snowplows, fork lifts, wagons, cranes, scrapers and many others.

For more details circle NED-510 D7 on enclosed inquiry slip



Safer lubrication
One hand operation

NEW ARO-PAK

- LIGHT WEIGHT, PORTABLE, ONE HAND OPERATION . . . gets hard-to-reach fittings!
- HOLDS 5 LBS. GREASE . . . lubricates more fittings between refills.
- PERMANENT AIR PRIME . . . maximum pressure 7,500 p.s.i.
- FASTER LUBRICATION, VOLUME DELIVERY . . . Cleaner lubrication. Sealed against dirt.
- FAST REFILL . . . in less than minute with ARO-FIL gun filler.

Refilling with time-saving Aro-Fil Gun Filler.

See your industrial distributor or write for Bulletin No. 5710.

THE ARO EQUIPMENT CORPORATION
Bryan and Cleveland, Ohio
Aro of California, 3141 S. Grand Avenue, Los Angeles 7 . . . Aro Equipment of Canada, Ltd., Toronto 15, Ontario.
Offices in All Principal Cities

ARO LUBE EQUIPMENT
Also . . . Air Tools . . . Air Hoists . . . Aircraft Products . . . Grease Fittings

For more details circle NED-511 D7 on enclosed inquiry slip

Need PIPE FABRICATIONS?

Let NAYLOR

Help You Save on Special Fittings and Fabrications

Naylor fabrication service can help you save money and insure better performance from your piping layouts. By combining several fittings into one integral unit, numerous flanged joints can be eliminated. Naylor pipe sizes range in diameter from 4" to 30" with all types of fittings and connections. Both pipe and fittings are available in steel, alloys and stainless steel.

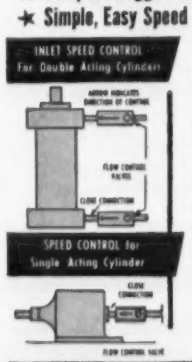
Send specifications for quotation.

NAYLOR PIPE COMPANY
1247 East 92nd St., Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office: 60 East 42nd St., New York 17, N.Y.

For more details circle NED-512 D7 on enclosed inquiry slip

For more details circle NED-513 D7 on enclosed inquiry slip

★ Accurate, Constant Cylinder Speed Control
★ Compact Rugged Design
★ Simple, Easy Speed Selection ★ For Air, Oil or Water Applications



Pneu-Trol Speed Control Valves, are widely used in hundreds of control applications because they combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to its seat, requiring only a slight differential pressure to fully open or close it.

Needle design permits maximum flow capacity in the controlled direction. Metal to metal needle and ball seats insure long trouble-free service. Simple, practical "O" gland structure eliminates troublesome leaking. Valve bodies machined from hex brass or aluminum for 2000 psi working pressures; steel and stainless steel for 5000 psi. Made in 5 female pipe sizes—1/8" to 3/4". ATTRACTIVE PRICES . . . IMMEDIATE DELIVERY.

Write for illustrated circular and prices.

Pneu-Trol DEVICES, INC.
1432 N. KEATING AVENUE • CHICAGO 51, ILL.

For more details circle NED-514 D7 on enclosed inquiry slip

Time/Frequency Calibrator

A Compact, Inexpensive, Accurate Secondary Frequency Standard

- ★ Crystal-controlled fundamental frequencies at 10 kc, 100 kc, 1 Mc and 10 Mc; usable harmonics to 1,000 Mc
- ★ High stability of 1 ppm/°C after 1 hour warm-up, when used with Type 1201-A Power Supply
- ★ New crystal mixer circuit produces and detects beats over entire 1,000 Mc range, with self-contained audio amplifier locates calibration points for r-f oscillators without additional equipment
- ★ Internal video amplifier makes available accurately known multivibrator square waves, supplying timing pulses at intervals of 0.1, 1.0, 10 and 100 μsec for triggering oscilloscope sweeps and pulse-generating equipment.

Type 1213-C Unit Time/Frequency Calibrator: $195
Type 1201-A Regulated Unit Power Supply: $85

Write For Complete Data

GENERAL RADIO Company

275 Massachusetts Avenue, Cambridge 39, Massachusetts, U.S.A.

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 920 S. Michigan Ave. CHICAGO 5
8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA
1000 N. Seward St. LOS ANGELES 38 1182 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO

▲ For more details circle NED-515 D7 on enclosed inquiry slip ▲

Here's the marking tool

INSPECTORS LIKE

. . . for fast—safe inspection stamping!

★ EASY TO USE
★ EASY TO CARRY
★ EASY TO CHANGE
★ STURDY — SAFE

INSERT STYLE
MODEL IH-30

INSPECTOR'S HAMMER

Inspectors like this hammer because it's so well balanced, and inserts can be easily changed. Available in five solid end styles in sizes ½, ¾, 1, 1½ and 2 lbs. High grade handles, of course.

A PRODUCT OF THE MARKING DEVICE INDUSTRY
Write for Catalog 100

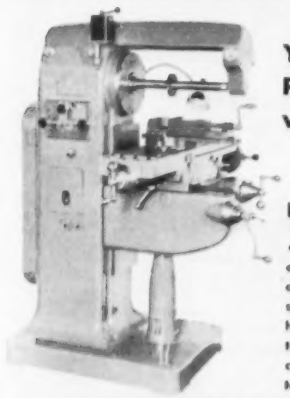
Mecco SAFETY MARKING TOOLS — M.E.CUNNINGHAM CO.

1055 CHATEAU STREET, PITTSBURGH 33, PA.

▲ For more details circle NED-516 D7 on enclosed inquiry slip ▲

WORLD WIDE *Acceptance* INDEX

YOUR ASSURANCE OF TOP VALUE!



You Get Peak Performance with an INDEX Model "60" HORIZONTAL MILL

• Simple, efficient, compact, with all operating parts enclosed, yet readily accessible. Unusually low-priced. Designed for the average tool room, yet highly suitable for production shops through its rigidity and low maintenance cost. Standard table 40" x 9", larger table optional.

The INDEX LINE also includes the Famous "SUPER 55" and the Popular "45" Vertical Mills

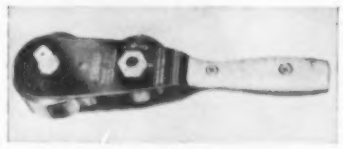
Write for Literature

INDEX MACHINE Co.

539 W. MECHANIC STREET JACKSON, MICHIGAN

▲ For more details circle NED-517 D7 on enclosed inquiry slip ▲

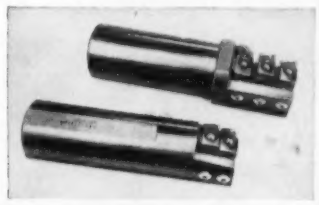
HAND IMPACT WRENCH handles up to 1¾-in. bolts



Up to 1¾-in. bolts are tightened manually to practical tensions with this Swench impact wrench. Impact force is controlled through simple spring setting to obtain any desired tension. Two drive extensions permit tightening and loosening of fasteners. As the handle is pulled, a spring and rotor mechanism delivers hammer-like blows through the socket to the bolt or nut. By reciprocating the handle, any number of short bursts or single impacts are delivered. Three sizes take ½, ¾ and 1-in. sockets. Prices of first two are $95 and $135, respectively. Made by **Swenson Engineering,** Box 43, Branford, Conn.

▲ For more details circle NED-518 D7 on enclosed inquiry slip ▲

BORING BARS provide individual micro-adjustment



Utilizing throw-away insert tool bits in each location, these individually micro-adjustable boring tools make it possible to combine multidiameter boring operations and chamfering. Anvil on which each insert is locked is micro-adjustable in and out. Screw-dials have divisions representing 0.001-in. on the diameter. When inserts are dull, they are indexed to a new edge or interchanged. Bars can be applied to all types of horizontal or vertical turret lathes. Made by **Wesson Co.,** 1224 Woodward Heights Blvd., Ferndale 20, Mich.

▲ For more details circle NED-519 D7 on enclosed inquiry slip ▲

INSULATING CRANE LINK minimizes electrical accidents

One chief cause of electrocutions in crane accidents is eliminated by this insulating link which replaces standard crane end connection. The insulated connection is capable of withstanding 100,000 volts, minimizing the possibility of death or serious injury when crane booms or load line accidentally contact energized overhead wires. Links are available in both 6.8 and 8.5-ton sizes with various types of end connections. A complete range of sizes will be offered shortly. Made by **General Machine & Welding Works, Inc.,** 1110 E. Second St., Pomona, Calif.

▲ For more details circle NED-520 D7 on enclosed inquiry slip ▲

SQUARE D's *New* ADJUSTABLE ALUMINUM FEED-IN DUCT FOR A LOT OF REASONS

Really adjustable! When other than standard lengths are required, *telescoping* joints with multiple slots permit *infinite adjustability* up to 12 inches! Standard elbows, T's and X's telescope up to 6 inches!

Fast delivery! *Any* length requirement can be met with *standard* 3, 5, 7, or 10 foot lengths, plus telescoping joints.

Faster installation! Fixed joints have symmetrical ends, less bars per phase, fewer connections, outward-facing captive bolts.

Write for literature
Address Square D Company, 6060 Rivard Street, Detroit 11, Michigan

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

▲ For more details circle NED-521 D7 on enclosed inquiry slip ▲

Markal HEAT-PROOF COATINGS

Brush MARKAL Coating on piece of metal and apply direct flame of torch until metal is red hot. *Protective coating has not been impaired.*

MARKAL Coatings give you complete protection against steam, corrosion, scaling, oxidation at extreme heat—temperatures up to 2100°F.

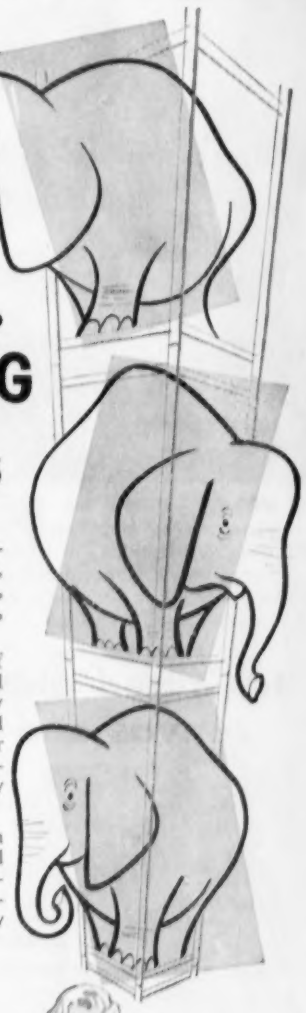
Write for complete technical information and free sample . . . state work conditions.

Markal COMPANY

3053 West Carroll Avenue • Chicago 12, Illinois

The Mark of Quality Protection—MARKAL!

▲ For more details circle NED-522 D7 on enclosed inquiry slip ▲



YOU CAN STACK OR SHIP **ANYTHING** ON **EMI RACKS**

Equipment Manufacturing storage racks that stack, cut time and handling costs, protect workers and stock, and speed inventory.

EMI racks are made of strong, welded tubular steel and are adjustable to fit any space or unit load. Special racks designed to your specifications. Field engineering service on any installation.

Before you decide on a new warehouse, additional storage space or the purchase of stacking equipment write for our new catalog.

"Keep your materials . . . . . WELL STACKED!"

Write for our new Catalog

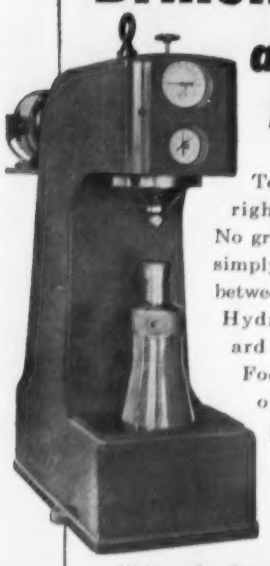
EQUIPMENT MFG. INC.

21566 HOOVER ROAD • DETROIT 5, MICHIGAN

Materials Handling Equipment Stacking Racks for Industry

▲ For more details circle NED-523 D7 on enclosed inquiry slip ▲

Brinell Testing at Production Line Speeds



Test round or flat parts fast, right in the production line. No grinding necessary. Operator simply notes that needle reads between pre-set tolerance hands. Hydraulically applied standard Brinell loads are used. Foot control allows operator to test parts as quickly as he can move them through.

Long stroke models also available.

Write today for more information

DETROIT TESTING MACHINE COMPANY

9394 Grinnell Avenue, Detroit 13, Michigan

For more details circle NED-524 D7 on enclosed inquiry slip

EDMONT CASE NO. 583: Ohio manufacturer had been supplying women employees $12 per dozen goatskin gloves for inspection handling of rubber automotive parts. Average wear was 20 shifts. Edmont recommended a smooth fitting, soft, plastic-impregnated glove (No. 101 Werx) that wore 25 shifts and cut glove costs 66%.

Job-fitted glove replaces canvas and goatskin

No. 101 Werx

Made of special vinyl-impregnated cotton fabric, Edmont Werx gloves average 4 times longer wear than canvas. On many jobs they also outwear expensive goatskin gloves and have no offensive odor. Exceptional dexterity and non-slip grip make them ideal for handling small parts and for inspection, material handling, shipping and receiving operations. They are moisture repellent, lint-free and washable. Very comfortable to wear. Available in both slip-on and knitwrist styles for men and women.

EDMONT CASE NO. 356: To provide protection against sharp edges and to prevent finger marks in handling molded plastic parts, Edmont recommended No. 151 Werx glove to leading appliance manufacturer. They outwore canvas gloves previously used by 4 to 1.

Free Test Offer to Listed Firms:

We make over 50 types of *job-fitted* gloves in various styles and coatings. Tell us your operation, materials handled and temperature condition. We will recommend glove and coating that best fits job and supply samples for comparison testing on-the-job.

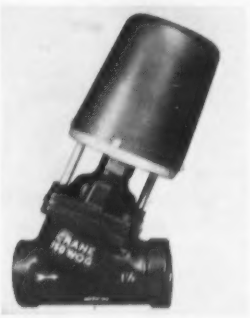
EDMONT MANUFACTURING COMPANY
1240 Walnut Street, Coshocton, Ohio
In Canada write MSA, Toronto

Edmont

Edmont JOB-FITTED GLOVES

For more details circle NED-525 D7 on enclosed inquiry slip

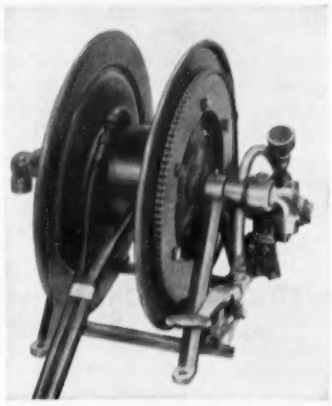
ROTATING VALVE ACTUATOR for proportional or on-off control



Mounted on valve stem, this Valvetrol electric valve controller provides remote or automatic operation with proportional or on-off control. Hollow output shaft of gear motor will accept ¼ to 1-in. valve stems. On rising stem valves, the adapter "swallows" the stem. Potentiometer supplies means for indicating valve position or becomes part of a balanced bridge system. Variety of gear ratios meets torque and operating speed requirements. They are adaptable to valves ranging from 1/6 to 40 turns to full open. Permanent split capacitor or three phase units are available in totally enclosed or explosionproof constructions. They can be mounted on existing valves, or they can be furnished mounted on standard-make valve. Announced by **Jordan Co.**, Dept. NED, 3235 W. Hampton Ave., Milwaukee 9, Wis.

For more details circle NED-526 D7 on enclosed inquiry slip

DUAL HOSE REEL for oxyacetylene welding hoses



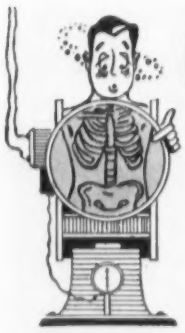
Simultaneous handling of both oxygen and acetylene gas hoses used in oxyacetylene welding is function of this dual hose reel. It permits welding torch use with any amount of hose unreeled. Rapid, even rewinding is provided by a compressed air motor with finger-tip control valve. Two hoses are attached to double outlet pipes. Reel is offered in wide range of sizes, capacities and pressures for above use and for two liquids, two gases, or a gas and a liquid. Made by **Clifford B. Hannay & Son, Inc.**, 103 First St., Westerlo, N. Y.

For more details circle NED-527 D7 on enclosed inquiry slip

Power Chucks

Buck Tool Co.—24-page catalog on Buck Chucks features the five Buck "firsts" in chuck development. These include the precision six-jaw scroll chuck, the Ajust-Tru power chuck, a "no-friction" compensating power chuck, the power-type keyway independent chuck and the full-use dustproof chuck. Piece lists mounting plate, accessories and power unit components.

For more details circle NED-528 D7 on enclosed inquiry slip



FLOW SIGHTS

SHOW "WHAT GOES ON" IN YOUR PLANT OR IN YOUR PRODUCT

Tell when liquids are moving, if quality is right and indicate flow.

Fig. 54A Flow Sight

Available in many sizes and types, usually from stock!

Plant and product engineers have relied on Bowser, liquid handling specialists since 1885, for prompt service. For sight glasses in single or double-window types, gravity or pressure models; or for electric or mechanical indicators . . . there is a Bowser man nearby ready to help you . . . quick!

Fig. 811 Flow Indicator

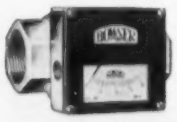


Fig. 816 Teleflo Indicator

PRODUCT RESEARCH BOWSER

WRITE FOR FLOW DEVICES BOOKLET

BOWSER, INC., 1381 E. CREIGHTON, FT. WAYNE, IND.

For more details circle NED-529 D7 on enclosed inquiry slip

OTC

REPLACE 42 SIZES WITH THESE TWO

NEW GIANT ALLOY adjustable wrenches

THINNER-LIGHTER-STRONGER

Until now 42 fixed size wrenches were needed to handle jobs done by these two *"Slim-Twin"* adjustable wrenches. Slim to permit easy access to tough jobs. Lightweight sturdy, high quality alloy steel for dependable service.

OA24-24" long, ⅞" thick with two jaws. Provides adjustments from 1⅜" to 2⅞" in ⅛" graduations. Extra jaw permits adjustments from 1⅞" to 2 11/16" in 1/16" graduations. Weight, only 10 lbs.

OA36-36" long, 1⅛" thick. Adjusts from 2 11/16" to 4¼" in ⅛" graduations. Weight, only 22 lbs.

Save time and money with OTC "Slim-Twins"

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436 CEDAR ST., OWATONNA, MINNESOTA

OTC

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You Can Hold Temperatures plus or minus 1/2° F.

with existing temperature control

GORDON XACTLINE

All the advantages of such precision temperature control can be yours—with your present pyrometer control—simply by adding a Gordon Xactline to your control circuit. Hundreds of applications prove its reliability.

Xactline is entirely electrical—not mechanical. Operation is sure and quick permitting on-off cycle as short as three seconds. It's automatic, too, no adjustments or coordination are ever needed. And, the installation is easy—you can do it yourself. The compact unit can be placed anywhere that is convenient, flush or wall mounted, and only six connections are required to place the instrument in operation. Why not look into its possibilities for you, today

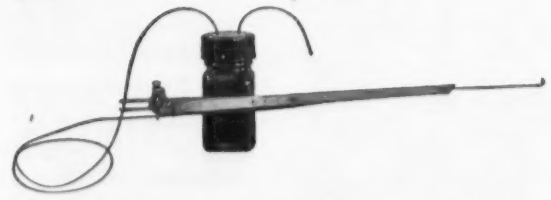
Ask for Xactline Bulletin. 6208

CLAUD S. GORDON COMPANY
Manufacturers • Engineers • Distributors
621 West 30th Street, Chicago 16, Illinois
2013 Hamilton Avenue, Cleveland 14, Ohio

For more details circle NED-531 D7 on enclosed inquiry slip

ARCCO CANNON *NEVER-DRY* PEN

Writes for Months



REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

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FREE 16 PAGE CATALOG

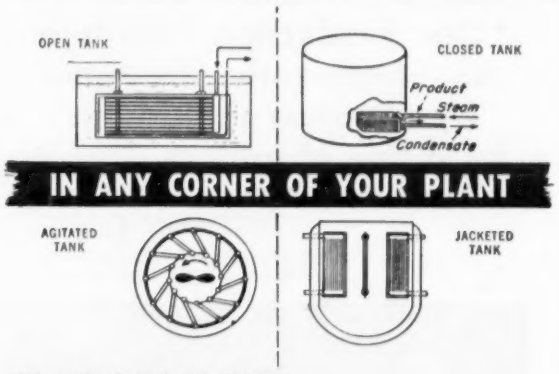
SAVE AIR AND GAS ...with this meter!

Completely self-contained, self-operated BUILDERS SHUNTFLO METERS can be installed right in your pipeline to check air and gas usage. These direct-reading, easy-to-install meters are available for 2" to 14" lines.

Send for your colored, illustrated copy of Bulletin 400-J10A. **Builders-Providence, Inc., 425 Harris Ave., Providence 1, R. I.**

BUILDERS-PROVIDENCE DIVISION OF B-I-F INDUSTRIES METERS FEEDERS CONTROLS

For more details circle NED-533 D7 on enclosed inquiry slip



IN ANY TYPE OF TANK PLATECOIL® CUTS HEAT TRANSFER COSTS

Use Platecoil heat transfer units singly, in series or in banks. Install them on end, flat or on their sides. Compact, light in weight and high in efficiency, they fit in any type of tank, do a better job and save money compared to old-fashioned pipe coils.

Fast delivery from stock

Write today for your copy of Bulletin P-57.

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You'll find our catalog in Sweet's Plant Engineering file

For more details circle NED-534 D7 on enclosed inquiry slip

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES

CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition.

WATERLOO METAL BOXES AND CHESTS

Write for FREE book, including complete information.

Waterloo

VALVE SPRING COMPRESSOR CO. WATERLOO, IOWA

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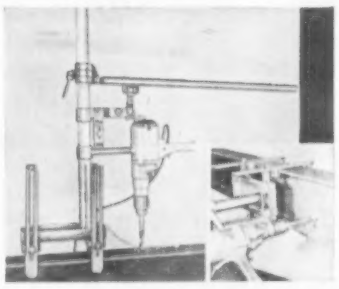
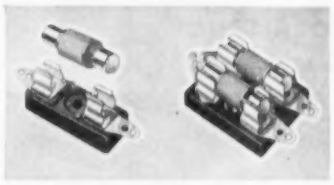
PORTABLE RADIAL DRILL adjusts vertically or horizontally



Light enough to be carried to the job, set up and operated by one man, the Lance portable radial drill eliminates the need for handling large pieces. It can be used for a wide variety of work as it is adjustable horizontally or vertically, drills in any position, including overhead and flat, and clamps and rolls on any shape, size or type of metal or wood. It uses any standard heavy duty portable electric or air-operated drill and swings in a 360-degree radius. Made by **Lance Iron Works,** Box 310R3, Chicago Heights, Ill.

For more details circle NED-536 D7 on enclosed inquiry slip

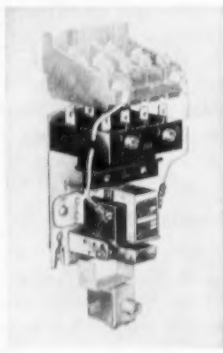
RECTIFIER MOUNTS are polarized for proper use



Either single or double-pole types are available in these mounting blocks for silicon rectifiers. Proper polarization is assured because rectifier can be inserted in only one way. Stop on one clip is positioned to engage the slot on the positive pole of the rectifier. The negative pole of rectifier is not slotted and is accommodated by the other clip which does not have a stop. Made by **Bussman Mfg. Co.,** 2534 W. University, St. Louis 7, Mo.

For more details circle NED-537 D7 on enclosed inquiry slip

MACHINE TOOL CONTROLS handle up to 15 amp, 600 v ac



Particularly suited for machine tool control applications, line of relays is easy to install and maintain. Size 00 is rated 10 amp, 600 v ac, and size 0 at 15 amp, 600 v ac. Fixed multiple pole and interchangeable multiple pole types are offered. Latter is changed from normally-open to normally-closed without tools. Both are available with 2, 3, 4, 6 or 8 poles and can be wired using screw-clamp terminals or an optional plug-in receptacle. Latching attachment is also optional. All parts are readily serviced. Made by **Arrow-Hart & Hegeman Electric Co.,** 101 Hawthorn St., Hartford 6, Conn.

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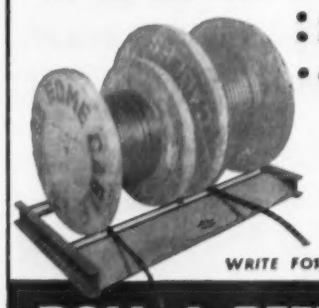
SAVE TIME AND MONEY HANDLING CABLE REELS

Easy, simple, fast! Minimum loading and unreeling effort. Modernly efficient.

Style A 2,000 lbs. cap. for reels up to 28 in. wide. 46.50 f. o. b. Cincinnati.

- Heavy gauge steel frame
- Slanted front
- Ball bearing adjustable rollers
- No jacks
- Handles any reel diameters
- Positive roller lock for unloading

FOR WIRE, CABLE, ROPE



Style B 4,000 lbs. cap. for 2 reels up to 24 in. wide each or 1 reel up to 48 in. wide. 84.50 f.o.b. Cincinnati.

WRITE FOR DETAILS TODAY

ROLL•A•REEL 4630 Reading Road Cincinnati 29, Ohio

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BANISH DUST DESTRUCTION

BREATHE CLEANER AIR

WITH Hammond DUSKOLECTORS

Collect dust and dirt before it becomes destructive, and –

- Provide healthier working conditions
- Protect costly machines
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Cleaner air is one of your best investments. Our DusKolectors Don't Cost – **They Pay.**

Clip this ad to your letterhead – Literature and interesting installation information will be sent at once

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A MUST FOR DUST!

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FILTER

Hammond OF KALAMAZOO "GOOD MACHINERY SINCE '82"

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GET MORE OUT OF YOUR SPRAYING EQUIPMENT WITH LESS POWER

For spraying, washing, rinsing, cooling and air conditioning, Yarway Spray Nozzles will improve the efficiency of your spray equipment.

There are no internal vanes or other restrictions to clog or hinder the flow.

Yarway Spray Nozzles are available in two types—the Yarway Involute producing fine hollow cone spray with minimum energy loss, and the Yarway Fan-spray for flat fan-shaped spray with time-saving slicing action for cleaning.

Wide range of standard sizes and capacities. Made of metal castings or machined from solid bar stock.

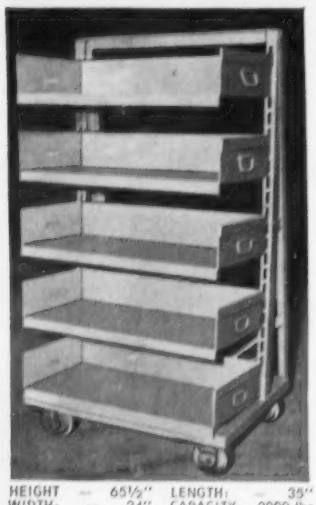
The 20-page Yarway Spray Nozzle Bulletin contains not only complete details on Yarway Spray Nozzles and Fittings, but also much helpful information on the many uses for spray nozzles. Ask for a free copy—Bulletin N-617.

YARNALL-WARING COMPANY

131 Mermaid Ave., Philadelphia 18, Pa.

YARWAY / spray nozzles

For more details circle NED-541 D7 on enclosed inquiry slip



VER-T-RACK

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- ELIMINATES MATERAL DAMAGE
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- GREATER SAFETY FACTOR
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT — 65½" LENGTH: — 35"
WIDTH: — 24" CAPACITY: 2000 lbs

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck. Trays are adjustable on **VER-T-RACK**

ONLY **$49.50** Plus $6.60 for each tray open as shown or semi-closed

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MATERIAL HANDLING DIVISION
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GENERAL CATALOG NO. 57

Listing approximately 5,000 quality tools for industry, including:

- ★ Tool Holders (The complete Armstrong System)
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- ★ Parallel and Machinists' Clamps
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- ★ Drop Forged Machine and Crank Handles
- ★ Drop Forged Wrenches
- ★ Detachable Sockets and Drive Parts
- ★ Bridge Ratchets and Sockets
- ★ Adjustable Wrenches
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- ★ Pipe Tools
- ★ Chain Tongs

No industry reference file is complete without the new Armstrong No. 57 Tool Catalog.

Buy ARMSTRONG TOOLS from your Industrial Distributor

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COMPARE!

Hart COUNTERS GIVE YOU MORE!

STD MODEL 5A

● Only Hart Counters — with simplified, one-part INSIDE reset design, solid wheels, and less than 16 working parts — have total accuracy and durability GUARANTEED! Two to five years, depending on model.

● Only Hart Counters have this exclusive WARRANTY OF "TRIPLE VALUE": (1) TWO YEARS FREE SERVICE, (2) SIX YEAR DEPRECIATION guaranteed to be less than one-half cent per day, (3) CREDIT ALLOWANCE given on counters requiring replacement within less than six years.

● Hart Counters are jump-proof and slip-proof — with premium features including easy vision window and large, easy-to-read numerals . . . handle spring . . . durable gray-wrinkle enamel finish . . . anti-corrosion plating . . . best in materials, engineering, and workmanship.

Every counter dated. Available in five and six wheel models, right or left operating arm. Priced from $10.60.

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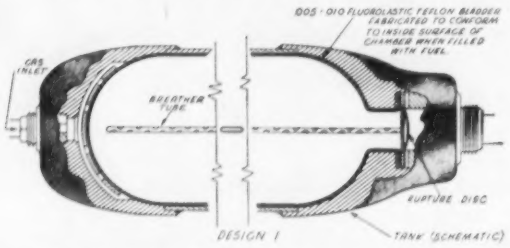
940 N. Main St. • Ann Arbor, Mich. • Since 1889

For more details circle NED-544 D7 on enclosed inquiry slip

TEFLON FUEL BLADDERS for high flying rockets, missiles

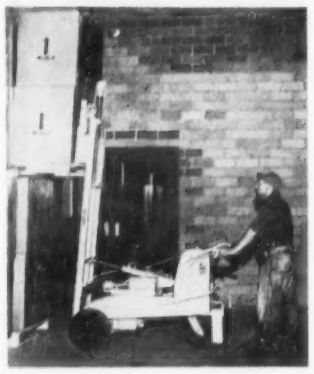
Fuel expulsion bladders for use in rockets and missiles are made from seamless Fluorolastic Teflon. Bladders can be any size and shape to conform to



a metal container. Teflon, with its basic toughness, flexibility and low co-efficient of friction withstands the 1000° F spread between a high of 550° and low of −450° F encountered in operation of ram-jet and rocket engines and the sub-zero cold of high altitude flight. Schematic sketch suggests how gas entering one end can propel the fuel from the other. Made by **Joclin Mfg. Co.**, 23 Lufbery Ave., Wallingford, Conn.

For more details circle NED-545 D7 on enclosed inquiry slip

LIGHTWEIGHT FORK TRUCK powered unit weighs 1050 lb



Model L-10 power fork truck weighs only 1050 lb, yet will lift a 1000-lb capacity load 6½ ft in 6½ seconds. Truck is light enough to be used on old floors and has large tires for outdoor use over rough ground. It is 31½ in. wide and will climb a 20-degree grade with full load. Mast, when tilted back, will clear a 6 ft 8 in. door. Truck is powered by Wisconsin air-cooled 6.8 hp engine and has enclosed all-gear transmission lubricated by one oil reservoir. Fork lift components can be quickly replaced with 10-cu ft dumping hopper, or one of two sizes of flatbeds. Made by **Prime-Mover Co.**, Third & Oak Sts., Muscatine, Iowa.

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Liquid Filters

Air-Maze Corp.—Full-flow filtration of lubricating, hydraulic and fuel oils is provided by all-metal liquid filters which are available with capacities from 1.7 to 720 gpm. Types for high or low pressure systems can be furnished with or without built-in relief valve. Various constructions are offered for high temperature or corrosive service. Complete data on sizes, capacities, pressure drop and engineering are given in bulletin LFC.

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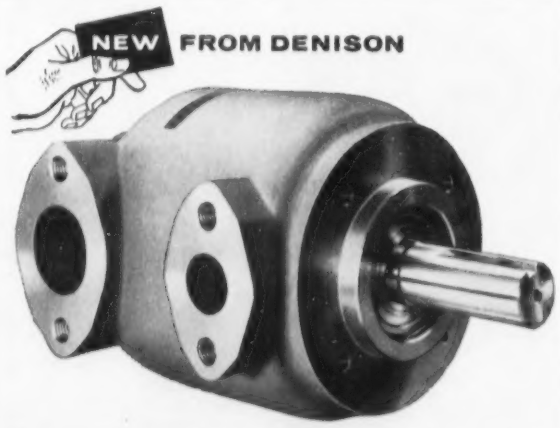
NEW FROM DENISON



CONTINUOUS 2000 PSI in a rugged, versatile vane-type HYDRAULIC PUMP

Ideal for mobile equipment . . . for special machinery . . . for automation. Fully balanced vanes and rotors assure peak efficiency, long life, minimum maintenance. Trouble-free starting under any weather conditions. Easily adapted to existing designs. Complete engineering details in Bulletin 200. Circle reader service card, or write:

DENISON HydrOIlics

DENISON ENGINEERING DIVISION
American Brake Shoe Co.
1192 Dublin Road, Columbus 16, Ohio

For more details circle NED-548 D7 on enclosed inquiry slip

Work-O-Matic* Box and Stand for

UNIT LOAD HANDLING AND WORK-LEVEL POSITIONING

Check these 7 Work-O-Matic features

1. **WORK-O-MATIC DROP BOTTOM BOX.** Heavy gauge corrugated steel construction. Square corners.
2. **CORNER STACKING ANGLES.** Safe tiering without shifting. Saves floor space.
3. **HINGED CHUTE BOTTOM.** As forks of truck are lowered, hinged bottom opens and parts slide into tray.
4. **WORK POSITIONING STAND.** Receives box from back or sides. Safely and easily transported by lift truck.
5. **CONTROL GATE.** Vertical adjustment controls flow of parts into tray.
6. **WORK-LEVEL TRAY.** Reservoir feature eliminates work stoppage when changing boxes.
7. **INCLINED TRAY END.** Assures parts accessibility. Speeds job change.

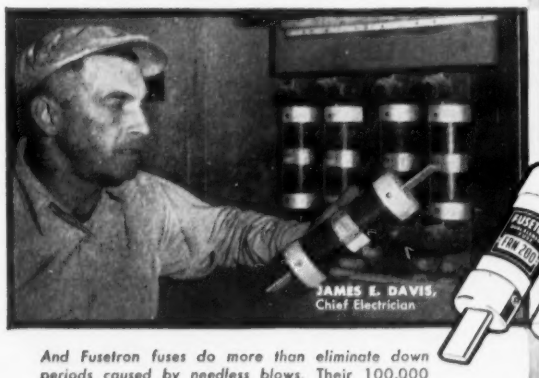
In addition, Union Metal offers industry's broadest line of conventional type material handling containers. Write for complete catalog information. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

For more details circle NED-549 D7 on

"Our Production schedule was frequently disrupted by needless shutdowns on a line of motors . . .
until we changed to
FUSETRON FUSES"

James E. Davis, Chief Electrician
Northwestern Glass Company, Seattle Washington



And Fusetron fuses do more than eliminate down periods caused by needless blows. Their 100,000 amp. interrupting capacity gives you maximum safety — and they are maintenance free. When an electrical fault occurs, they prevent further damage to equipment by opening and warning of danger.

Write for bulletin FIS.

1256

FOR LOADS TO 5000 AM — USE

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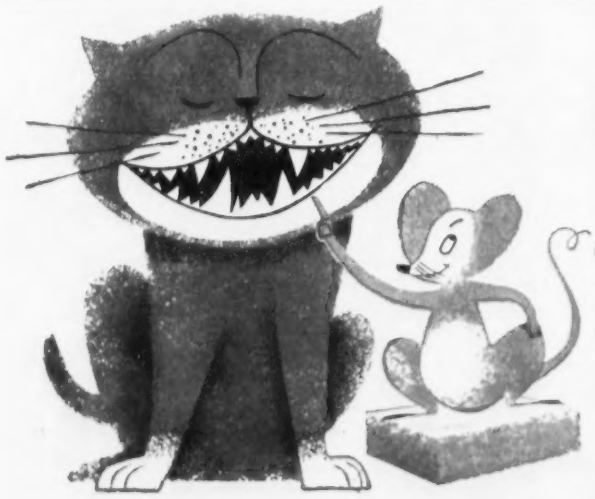
For more details circle NED-550 D7 on



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EVERY TYPE—EVE

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Ball Bearings
Cylindrical Roller Be
Spherical Roller Bea
Tapered Roller Bear

SKF INDUSTRIES, INC., PHILADELP

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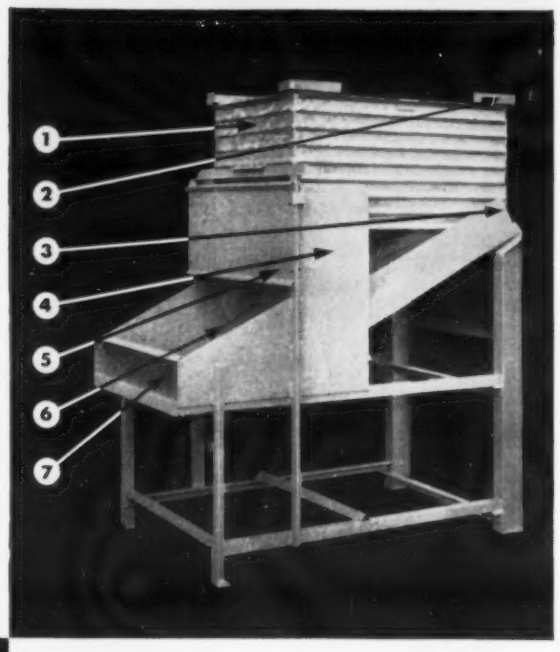
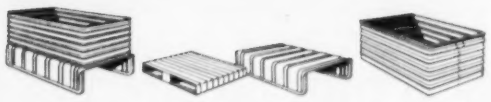




*Patent No. 2,445,038

NED-549 D7 on enclosed inquiry slip

Mr. Davis continues . . . . "Ordinary 500 amp. renewable fuses were blowing in a 1000 amp. switch that controls a line of motors ranging in sizes up to 150 hp.

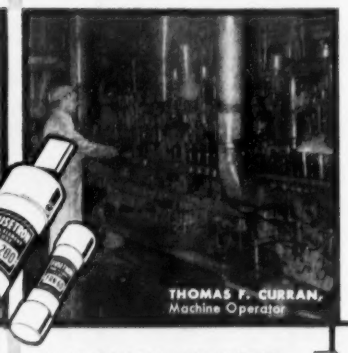
"We work on a tight production schedule, so these shutdowns with men and motors standing idle were costing us a considerable amount of money and trouble.

"A study of the situation indicated that harmless surges were causing the fuses to blow.

"We figured that the long time-lag of Fusetron dual-element fuses might correct the trouble.

"They were installed in 1953 and the original Fusetron fuses are still in service.

"We think this is quite a record because the switch is loaded to capacity 24 hours a day 7 days a week, only Christmas and July 4th excepted."



THOMAS F. CURRAN,
Machine Operator

FOR LOADS ABOVE 600 AND UP TO 5000 AMPS. —
— USE BUSS Hi-Cap FUSES!
When coordinated with Fusetron fuses they will not open ahead of the fuse nearest fault.
Write for bulletin HCS.

Play Safe! install FUSETRON dual-element Fuses and BUSS Hi-Cap Fuses throughout entire Electrical System!

BUSSMANN MFG. CO.
(Div. of McGraw Electric Co.)
University at Jefferson,
St. Louis 7, Mo

FUSETRON
BUSS

NED-550 D7 on enclosed inquiry slip

He's got them all

You'll find the bearings you need
And obtain them with speed
From the place with a complete line
Your distributor with the **SKF**® sign.

Ball and roller bearings of every type
Pillow block housings that fit just right
Other accessories are available too
At the **SKF** distributor who's near you.

7740

V TYPE—EVERY USE

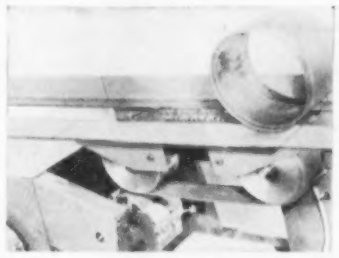
Bearings
ndrical Roller Bearings
rical Roller Bearings
red Roller Bearings ("Tyson")

. Pat. Off. Tyson Bearing Corporation

, PHILADELPHIA 32, PA.

e NED-551 D7 on enclosed inquiry slip

ROLL IMPRINTER
fits into standard production lines



Free-rolling products are permanently marked as they are guided to roll over the inked marking die in this Roll-Over printer. It is custom-made to fit into the production line. Weight of the rolling product actuates the marking mechanism. Either longitudinal or peripheral marking can be done over practically any size surface or length. Made by **Pannier Corp.**, 301 Sandusky St., Pittsburgh 12, Pa.

For more details circle NED-552 D7 on enclosed inquiry slip

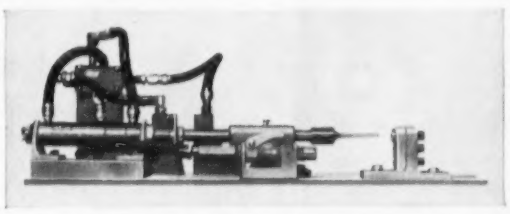
AUTOMATIC WEIGHER
speeds small item, bulk packaging

Capable of weighing a wide variety of dry products ranging from clay to small parts, this two-station automatic weighing station has speed of 40 weighings per minute. Weight range per weighing is 1 oz to 5 lb. Its compactness adapts it as an accessory to high speed bag making machines for net weight filling. It will weigh two different materials simultaneously for unusual packaging and proportioning uses. Optional automatic feed converts machine for fully automatic filling. Made by **Glengarry Processes Inc.**, Bay Shore 1, N. Y.

For more details circle NED-553 D7 on enclosed inquiry slip

COAXIAL CABLE STRIPPER
removes metal braid in under 3 sec.

Powered by 1⅛-in. air cylinder under 75 psi, this compact machine production-strips the metal braid on any standard-size coaxial cable in less than 3



seconds. It will not cut the polyvinyl insulation. Machine operates on shop air line. A single air valve actuates the reciprocating braid-cutting motion in an automatic cycle. Bench model is furnished with female cutter to specifications. Made by **Wire Stripper Co.**, 1721 Eastham Ave., East Cleveland 12, O.

For more details circle NED-554 D7 on enclosed inquiry slip

Condensed Technical Data On
CROLOY STEEL PIPE AND TUBING
for High-Temperature Service

Data includes analyses, applications, mechanical and physical properties and other features to aid you in selecting the right tubing or pipe for your exact requirements. Write today for your copy of TDC-163. Address The Babcock & Wilcox Company, Tubular Products Division, Dept. NED-4, Beaver Falls, Pa.

B&W
TUBULAR PRODUCTS DIVISION

(TA 7013-PL2

Seamless and welded tubular products, seamless welded fittings and forged steel flanges—in carbon, alloy and stainless steels

For more details circle NED-555 D7 on enclosed inquiry slip

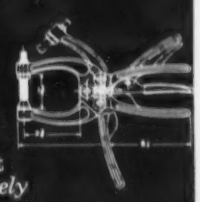
announcing . . .
TRIGGER-RELEASE
levers on 5 more

DE-STA-CO

PORTABLE
TOGGLE CLAMPS

MODEL 462

Trigger-Release levers also available on DE-STA-CO Toggle Clamp Models 461, 462-S, 463, and 463-S (jaw spans ranging from ½" to 3").



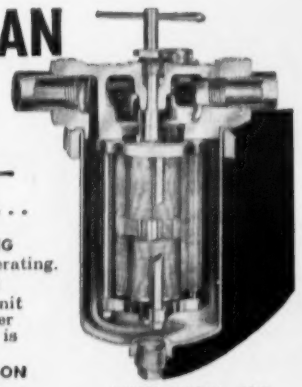
For a one-handed clamping job . . . especially in a hard-to-get-at place . . . there's *nothing, absolutely nothing*, as good as a Trigger-Release DE-STA-CO Portable Clamp! . . . And now, with 5 more new models, we meet practically every such clamping requirement.

FOR COMPLETE INFORMATION, WRITE FOR 40-PAGE CATALOG AND NEAREST DE-STA-CO DEALER!...

DE-STA-CO DETROIT STAMPING COMPANY
WORLD'S FIRST LINE OF TOGGLE CLAMPS
360 Midland Avenue • Detroit 3, Michigan

For more details circle NED-556 D7 on enclosed inquiry slip

SPECIFY CUNO Super AUTO-KLEAN Filters
when your designs demand—



- **MICRONIC FILTRATION** . . . down to 40 microns.
- **POSITIVE, SELF-CLEANING ACTION** . . . while operating.
- **SMALL SIZE** plus **HIGH FLOW RATES** . . . 12" unit illustrated handles over 50 gpm. Pressure drop is less than 3 psi.
- **ALL-METAL CONSTRUCTION** . . . carbon or stainless steel, two-stage filtration, lowest cost-per-gallon.

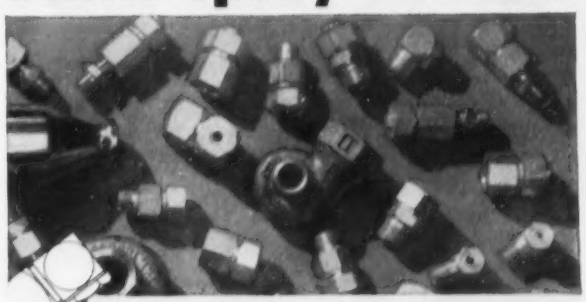
WRITE NOW FOR FREE DESIGN DATA

A COMPLETE DESIGN-ENGINEERING SERVICE . . . to help you solve all your filtration problems is available through the Cuno Field Engineer conveniently located in your area.

CUNO ENGINEERING CORPORATION
1704 SOUTH VINE STREET, MERIDEN, CONN.
ONLY CUNO offers you ALL 5 TYPES of Filter Media:
EDGE-TYPE, WIRE-WOUND, SCREEN
FIBER CARTRIDGE and
POROUS METAL

For more details circle NED-557 D7 on enclosed inquiry slip

Binks spray nozzles



for washing, cooling, processing, humidifying, dehydrating, and hundreds of other applications.

You'll get the *right* nozzles quicker by calling Binks ...manufacturers of one of the most complete selections ever produced.

There is a size and spray pattern for every purpose...with nozzles cast or machined from standard or special corrosion-resistant metals and materials.

MAIL COUPON NOW!

612

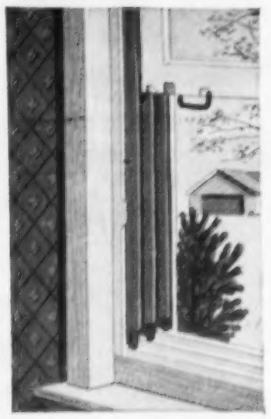
Binks Manufacturing Company
3122-34 West Carroll Ave., Chicago 12, Ill.
O. K. Binks, send me your comprehensive Spray Nozzle Catalog without obligation.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

Binks
A COMPLETE LINE OF INDUSTRIAL SPRAY NOZZLES AND COOLING TOWERS

For more details circle NED-558 D7 on enclosed inquiry slip

The tough plastic is KRALASTIC



This unique Naugatuck rubber-resin makes products—like these Kralastic® window channels—that are dimensionally stable, impact-resistant, unharmed by weather and most chemicals, practically friction-free, extremely strong and tough yet light in weight! Hosts of parts or products now made of metal or wood can be made *better* of Kralastic. What about yours? Let's discuss it!

United States Rubber
Naugatuck Chemical Division
Naugatuck, Connecticut

BRANCHES: Akron • Boston • Gastonia, N.C. • Chicago • Los Angeles • Memphis • New York • Philadelphia • IN CANADA: Naugatuck Chemicals, Elmira, Ontario • Rubber Chemicals • Synthetic Rubber • Plastics • Agricultural Chemicals • Reclaimed Rubber • Latices • Cable Address: Rubexport, N.Y.

For more details circle NED-559 D7 on enclosed inquiry slip

New Compound Levers

Make Coffing Super Powers the most efficient hoists in their class

Super Power hoists are designed around a new compound leverage principle which enables workmen to raise loads with less handle pull than other hoists of the same capacities. Use of these compound levers also makes the hoists 20% lighter than competitive models.

Available in 1½ and 3-ton capacities in aluminum and 1½ to 5 tons in malleable iron, Super Powers offer sealed-in lubrication, "Safety Valve" handles, overload testing and constant load-locking ratchet-and-pawl construction. For complete details, consult your Coffing distributor, or write for Bulletin L-3. **Coffing Hoist Division, Duff-Norton Company, 803 Walter Street, Danville, Ill.**

For more details circle NED-560 D7 on enclosed inquiry slip

New Efficiency

The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy

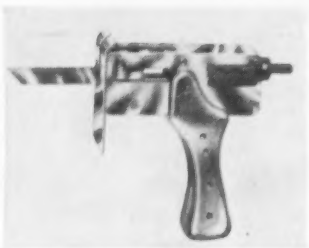
FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before filter replacement is necessary.

Sample: $1.50 postpaid (INDUSTRIAL PRICE ONLY)

FLEXO PRODUCTS, INC. Cleveland 13, Ohio

For more details circle NED-561 D7 on enclosed inquiry slip

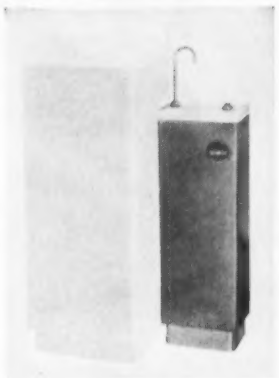
MULTIPURPOSE SAW used in ¼-hp, 1800-2500 rpm drill



Used in a ¼-hp, 2 to 2.5 - amp, 1800-2500-rpm portable drill, the Drilsaw can be used as a crosscut, rip, jig, band, coping, keyhole and hack saw all in one. It can be set up on a bench or floor drill for jig and band saw work in a few minutes. Saw will cut 2 in. of lumber, including hidden spikes, without damage to the blade. Brass, aluminum, and other mild metals up to ½-in. thick, Masonite, wallboard, fiberboard, plastic and Formica up to ¾-in. thick can be cut without tearing the edges. Tool has line-reamed bearings in the body and precision ground shaft bearing. It sells for $14.95 complete with three blades and a wrench. Available from **Drilsaw Sales,** Dept. NED, 3632 Prospect Ave., Kansas City 28, Mo.

For more details circle NED-562 D7 on enclosed inquiry slip

HOT WATER DISPENSER connects to standard water cooler



Operated in conjunction with pressure water coolers already installed, the Cooler-Hot hot water dispenser eliminates the expense of combination hot and cold unit. Dispenser is simply connected to cooler at either side, or can be connected to any regular water outlet. It has 37-in. water drawing height and capacity of up to 60 cups per hour. Cabinet measures 31 x 10 x 7 in., has gray hammertone enamel finish and stainless steel base. White vitreous china top has stainless drain plate, chrome finished glass filler and separate chrome pushbutton activator. It operates from 115-v ac connection. List price is $73. Made by **Sunroc Corp.,** Pennell Rd., Glen Riddle, Pa.

For more details circle NED-563 D7 on enclosed inquiry slip

Construction & Maintenance Materials

A. C. Horn Companies—Materials for construction and maintenance of commercial, industrial and institutional buildings are reviewed in 20-page form D-4736. It covers caulking compounds, masonry dampproofing materials, expansion joint materials, water repellents, concrete admixtures, coloring additives, metallic and nonmetallic concrete hardeners, patching compounds, sealers and several concrete paints and coatings.

For more details circle NED-564 D7 on enclosed inquiry slip

ADAMS creates a Cyclone to give you Drier Compressed Air

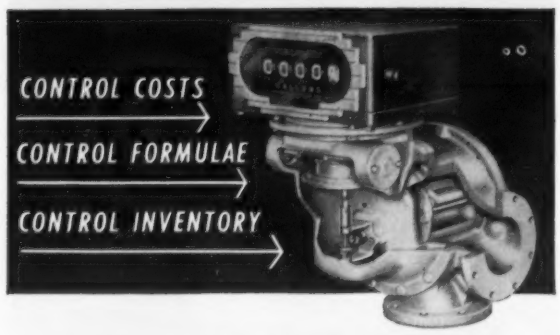
The Adams Aftercooler and Cyclone Separator are a perfect team. The highly efficient aftercooler condenses more moisture . . . the separator's unique design creates a cyclone to remove more of the condensation.

Write today for all the facts . . . Get your copy of Bulletin 711.

R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

For more details circle NED-565 D7 on enclosed inquiry slip

Stop Liquid Processing Waste



METER YOUR LIQUIDS AND SAVE!

Want accurate cost controls over liquids used in your plants? Need quality control for your formulations? Are your liquid inventories a problem? Then turn to *Rockwell Industrial Meters.* Get accurate metered records, quick! Made in a wide variety of sizes, types and materials, including *all-stainless steel* meters for corrosive services; automatic shut-off models for batching; remote registration for centralized control. Write for bulletin. Rockwell Manufacturing Company, Pittsburgh 8, Pa.

ROCKWELL *INDUSTRIAL* METERS

For more details circle NED-566 D7 on enclosed inquiry slip

FOR MAXIMUM SAFETY

all over your plant use Safety GRIP-STRUT

the new basic material, all in one piece (including channels), not welded, riveted or expanded in steel or aluminum, in standard sizes and gauges. Safety GRIP-STRUT presents an open space, in a diamond pattern, in excess of 55% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads.

Important Safety Features

- ★ Fire proof
- ★ Slip proof
- ★ Maximum strength
- ★ Minimum weight
- ★ Easy to stand on
- ★ Cool in summer—warm in winter

Big Economy Features

- ★ For balconies—no extra light needed below—no extra heat.
- ★ No extra supports necessary—channels are integral part of the material
- ★ No secondary sprinkler heads needed
- ★ Self-cleaning
- ★ Cut and installed like lumber by your own maintenance force
- ★ Low in original cost

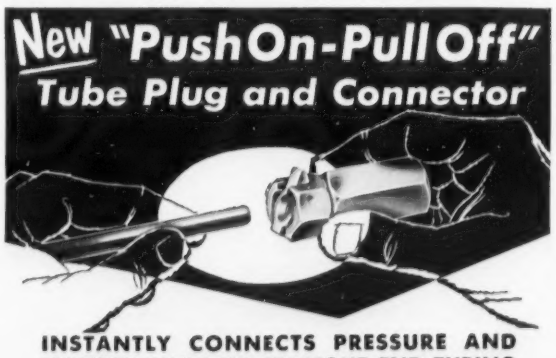
Distributors in all principal cities. Consult yellow pages in phone book under "GRATING."

GRIP-STRUT SEND FOR NEW CATALOG

GRIP-STRUT division
THE GLOBE COMPANY • *Manufacturers since 1914*
4002 S. PRINCETON AVE. • CHICAGO 9, ILL.

For more details circle NED-567 D7 on enclosed inquiry slip

New "PushOn-PullOff" Tube Plug and Connector

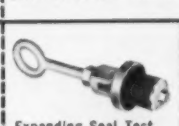


INSTANTLY CONNECTS PRESSURE AND VACUUM LINES TO STRAIGHT END TUBING

for AIR, WATER, STEAM, FREON, ETC.

Simply push the Connector over end of tubing and press to "stop" position. This **AUTOMATICALLY** locks tubing into place for a leak-proof seal. To unlock, press button and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for 1/4" to 1" OD tubing. Other sizes to order. Write for Calalog and prices.

"Quick-Seal" Self Sealing Test Plug. Uses test pressure to insure leak-proof seal. Capacities to 500 psi.



Expanding Seal Test Plugs and Filling Connectors.

"Quick-Seal" Self Sealing Filling Connector — adapts and seals air or liquid pressure lines to openings.

MECHANICAL PRODUCTS CORPORATION
176 North Ogden Avenue • Chicago 7, Illinois

For more details circle NED-568 D7 on enclosed inquiry slip

GLOVCO'S service makes worn out gloves safe and good as new at fraction of original cost.

● Yes, before you throw away your old worn out gloves, check GLOVCO'S nationwide service first! GLOVCO is saving industry up to 90% on gloves they once threw away. GLOVCO reclaims worn dirty plastic, leather and fabric gloves, welder's gloves, mitts, hand pads. Also hot mill, terry cloth, asbestos aprons and gloves, sleeves, drop cloths, protective clothing, etc. GLOVCO service is used in thousands of plants from coast-to-coast. Write for details and FREE trial demonstration. Satisfaction guaranteed.

GLOVCO also offers a variety of NEW GLOVES at great savings.

U. S. INDUSTRIAL GLOVE CORP.

9350 Roselawn Ave. Detroit 4, Mich. · 1920 Rose St. Pittsburgh 19, Pa. · 2646 N. Figueroa St. Los Angeles 65, Calif.

▲ For more details circle NED-569 D7 on enclosed inquiry slip ▲

NAMEPLATE DECALS

If you have adhesive problems with the water applied decals you are now using...switch to NEW MEYERCORD TYPE I

This is BIG NEWS about a new addition to the Meyercord "family" of commercial nameplate decals! Meyercord has perfected a completely new water applied decal nameplate with revolutionary advantages. This new TYPE I Decal instantly grips virtually any commercial surface with bulldog tenacity. It will cling and adhere with ease to acrylics, metal (painted or unpainted), melamines, polyethylenes . . . to mention only a few of the more difficult. Type I decals are applied with all the usual ease of any water applied decal but they do not depend upon water solubility for adhesion. Even if oversoaked for long periods there is no damage or adverse effect on the adhesion. TYPE I Decal Nameplates can be designed to include colorful halftones as well as plain poster-style designs. However, for the present, this new TYPE I Decal can be manufactured in production line quantities only. Let us prove that TYPE I can be the answer to the most stubborn nameplate problem. Send sample of surface and material—for samples and full information. No obligation, of course.

FREE! "MARK-IT" MANUAL OF DECAL NAMEPLATES

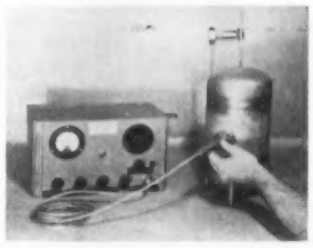
Send today, on your company letterhead, for this valuable full-color guide to every industrial problem in marking, identification, instruction, and information. Gives you hundreds of new ideas for the application of decals to your products.

THE MEYERCORD CO.
World's Largest Decalcomania Manufacturers

DEPT. F-316, 5323 WEST LAKE STREET · CHICAGO 44, ILLINOIS

▲ For more details circle NED-570 D7 on enclosed inquiry slip ▲

LIQUID METAL LEVEL GAGE
checks through wall of container



Level of liquid metal is determined readily within 1 mm with this indicator. Measurement is made through the container wall without use of an internal probe. Oscillating signal frequency is varied to compensate for different container wall thicknesses. Probe is heat resistant and can be made to required shape. Price is $465. Made by **Nuclear Development Corp. of America,** Dept. NE, 5 New St., White Plains, N. Y.

▲ For more details circle NED-571 D7 on enclosed inquiry slip ▲

NEEDLE VALVES
straight and angle types

An O-ring stem seal is employed in this series of small forged brass needle valves, offered in angle and straight patterns. Applications include instrument air lines, test panels, pilot plant setups and graphic panel boards. This seal eliminates leaks and adjustments and permits helium leak testing for noncritical high vacuum service. Either V-point stem for accurate flow control or blunt-point stem for full flow are available. Bodies withstand 2000 psi. Available for panel mounting, valves offer choice of male or female pipe thread or Swagelok tube ends. Made by **Hoke, Inc.,** 217 S. Dean St., Englewood, N. J.

▲ For more details circle NED-572 D7 on enclosed inquiry slip ▲

STRINGING SHEAVE
mounts on 5-in. wide crossarms

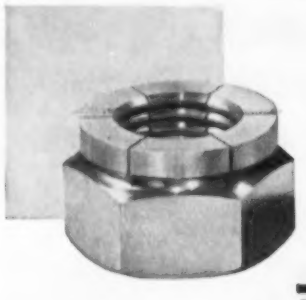
Adjustable aluminum alloy bracket of model XS-100 universal stringing sheave mounts on roofed or flat crossarms of 5 in. or smaller width. Bracket can easily be mounted with one hand, and no tools are required to change angles or drop bracket off for suspension installations. Smoothly polished aluminum alloy sheave measures 7 in. diameter by 3 in. wide and mounts on two shielded ball bearings. It is grooved for cable up through 1¾ in. diameter. Block has safe working load of 2500 lb. Made by **Sherman & Reilly, Inc.,** First & Broad Sts., Chattanooga 2, Tenn.

▲ For more details circle NED-573 D7 on enclosed inquiry slip ▲

Hardened and ground to close tolerances, precision-made Universal Locating Pins insure quick, accurate alignment, through even the longest, toughest production runs. And their cost is substantially less than ordinary tool-room pins. Stocked in all standard sizes for immediate delivery . . . in round or relieved, press-fit, threaded or lock screw types. Write today for 98-page catalog describing the complete line of Universal quality products.

UNIVERSAL ENGINEERING CO. • FRANKENMUTH 5, MICHIGAN

▲ For more details circle NED-574 D7 on enclosed inquiry slip ▲



specify standard

FLEXLOC

SELF-LOCKING NUTS

FLEXLOC DESIGN FEATURES

- one-piece, all-metal construction
- resilient locking section
- controlled locking torques
- lock and stop nut in one
- every thread carries its full share of load

DO YOU KNOW? Standard FLEXLOCS improve the finish of rough bolts. They smooth off rough threads. And the locking threads on all-metal FLEXLOCS are not chewed up when used on rough bolts. FLEXLOCS are stocked by authorized industrial distributors in a full range of sizes from #0 to 2". Write for Bulletin 866. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
FLEXLOC LOCKNUT DIVISION **sps**
JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-575 D7 on enclosed inquiry slip ▲

Aero-Seal
THE STAR OF HOSE CLAMPS

In hose clamps, the *quality* name today as always is AERO-SEAL. We pioneered the famous precision worm gear and engineered the *extra strength* and holding power. Other clamps may LOOK like AERO-SEALS, but take a *second* look! Compare quality with price cuts and special discounts. Which pays off best? Compare the worm gear construction. Note that AERO-SEAL worms don't wobble. Look at the special rugged interlocking feature that makes AERO-SEALS hold tight – no spot welding. Note the precision gear that applies uniform pressure – does not pinch hose. Stainless steel bands, complete size range for dozens of fastening uses. Insist on genuine AERO-SEALS.

For added quick-attach advantage, get AERO-SEAL Jets. Nothing like them!

Aero-Seal **REGULAR WORM GEAR HOSE CLAMPS**
BREEZE CORPORATIONS INC. 700 Liberty Ave., Union, N.J.

▲ For more details circle NED-576 D7 on enclosed inquiry slip ▲

Gage small parts quickly and economically with the KODAK CONTOUR PROJECTOR, Model 8

Here's a portable, bench-type comparator that gives you the speed, economy, and precision of optical gaging at moderate cost. With little training, operators can inspect all sorts of stampings, screw machine and similar parts completely, accurately, and quickly.

The Model 8 can be used for either vertical or horizontal projection with the shadow image always erect and right-reading. Interchangeable lenses give a choice of any of six for magnifications from 10× to 100×.

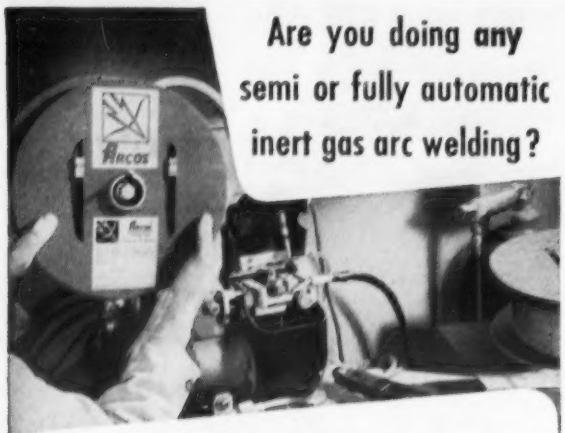
For details on the Kodak Contour Projector, Model 8, and how you can use it, send for the booklet, "Projection Gaging with Kodak Contour Projectors." Write *Apparatus and Optical Division.*

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

Kodak

▲ For more details circle NED-577 D7 on enclosed inquiry slip ▲



Are you doing any semi or fully automatic inert gas arc welding?

• For improved performance—improved welds—specify ARCOS Spooled Wire. In stainless, aluminum, or copper nickel alloys—every Arcos grade assures these benefits: A clean, uniform finish for better conductivity and arc stability . . . Smooth, easy feeding off level-layer-wound reels . . . Each batch checked to be sure it produces the "right" kind of sound, uniform weld metal.

FREE FILLER METAL CHART

Shows complete line of ARCOS Rods and Electrodes—tells where to use . . . what welding method is suitable. Write today.

ARCOS CORPORATION

1500 South 50th Street • Philadelphia 43, Penna.

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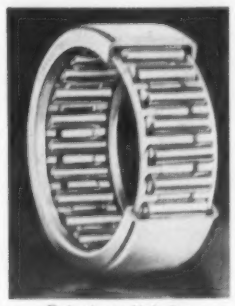
DRAWN CUP ROLLER BEARINGS have high capacity in minimum space

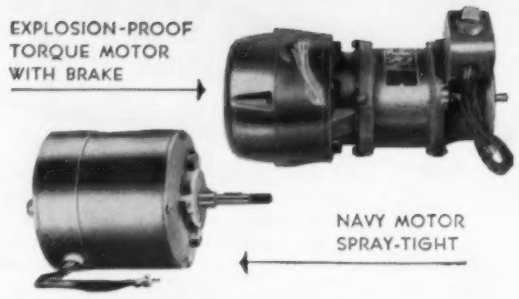


Patent applied for

Compact, lightweight, drawn cup roller bearings are suited for applications requiring a precision minimum cross-section, high speed endurance or long pregreased life. They have high capacity in minimum space and can be used in textile, automotive, aircraft, appliance and farm machinery fields. Nonseparable, and thus easily handled and installed, units have spherical end rollers retained and guided by one-piece hardened steel retainers. They can be mounted so that a hardened and ground shaft serves as the inner race, making possible use of larger shafts. Inner races are available for use with soft shafts. Installation is by a press fit without snap rings or shoulders. Six standard sizes from 5/16 to 1⅛ in. shaft diameters are available. Made by **Torrington Co.**, Bearings Div., 59 Field St., Torrington, Conn.

For more details circle NED-581 D7 on enclosed inquiry slip

IF STOCK MOTORS CUT MACHINE EFFICIENCY



Peerless builds a complete line of general purpose motors plus hundreds of specials for specific needs. Our engineers specialize in motor problems that require unusual mountings or construction to achieve maximum machine efficiency. Let us work with you on your problem. Write for Bulletin SDA-155. It tells how we help you.

Single Phase 1/2 to 7-1/2 HP **Polyphase 1/2 to 30 HP**

ELECTRIC MOTOR DIVISION

THE Peerless-Electric® COMPANY

FANS • BLOWERS • MOTORS • ELECTRONIC EQUIPMENT

1506 W. MARKET ST. • WARREN, OHIO

For more details circle NED-584 D7 on enclosed inquiry slip

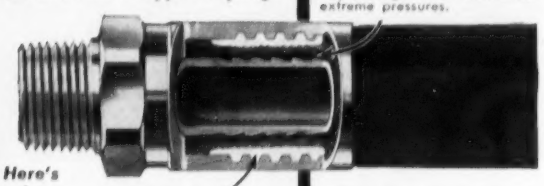
AUTOMATIC CAFETERIA serves complete hot meal at the touch of a button

In a matter of seconds, this automatic-cafeteria battery of vendors will serve up a complete meal, from appetizer to dessert, at the touch of a button. The modular battery consists of a hot plate vendor, a hot can machine and a sandwich - pastry - bun unit. Hot lunch or dinner unit has two selections and capacity of 22 food packages. Precooked foods are held at 32-40° F until meal time, then heated to preset temperature. Delivery cycle takes 6 seconds, with average heating of 1 hour for 22 eight-oz servings to 180°.

The hot canned food machine offers four selections with total capacity of 104 cans. The sandwich, bun or pastry vendor has two columns, each with 25-product capacity. It vends any commodity which fits into a 4-9/16 x 4-9/16 x 1-5/16-in. box. Like the hot plate vendor, sandwich machine can be put next to an auxiliary unit, working from the same master unit and coin mechanism. With hot plate machine, two slave units, each with two selections, work from same coin mechanism and heating system as does the master unit. Made by **Rudd-Melikian, Inc.**, Hatboro 1, Pa.

For more details circle NED-582 D7 on enclosed inquiry slip

For High Pressure you'll want ANCHOR Ductile Sleeve Type Couplings



This exclusive ANCHOR patented coupling has a long, uniform grip made possible by a ductile sleeve that is imbedded into the grooves on the inside of the shell and into the steel reinforcing wires of the hose. It virtually becomes an integral part of the wire braid of the hose, and is your insurance against blow-offs.

Anchor High Pressure Hose Assemblies, incorporating the exclusive Anchor Ductile Sleeve Couplings, can be supplied in a full range of sizes from ¼" to 1¼" I.D. and with Minimum Burst Pressures to 28,000 P.S.I. For the complete story on Anchor High Pressure Hose Assemblies, WRITE TODAY FOR CATALOG No. 100.

Andy Anchor says:

You will find the wealth of engineering data included in the following catalogs extremely helpful. Write for them today!

Catalog No. 202—Anchor Adaptor Unions, Pipe Fittings and the new SAE Boss Type Adaptors—See Standards, Page 825, 1956 SAE Handbook.

Catalog No. 301—Anchor Reusable Couplings

Catalog No. 401 — Anchor FLANCO Split-Flange Couplings which conform to SAE Standards, Page 823, 1956 SAE Handbook.

ANCHOR COUPLING CO. INC.

351 North Fourth Street, Libertyville, Illinois

Branch Offices: Dallas, Tex., Plymouth, Mich.

For more details circle NED-579 D7 on enclosed inquiry slip

asg UNIVERSAL JOINTS

available in 13 sizes with bored or solid hubs

You can get ASG Universal Joints directly from stock in 13 sizes with bored or solid hubs ranging in diameter from .375" to 4.000". Special bores, bores with keyways or setscrews are available upon special order.

ASG Universal Joints are ruggedly constructed of heat treated alloy steel. Matching or mating parts are precision ground to permit easy interchangeability of components. Joints of ⅞" length and longer have snap ball oilers.

Send today for Bulletin No. 527 describing the full line of A.S.G. Universal Joints available from your nearest distributer.

AMERICAN STOCK GEAR DIVISION

PERFECTION GEAR COMPANY • HARVEY, ILL., U.S.A.

For more details circle NED-585 D7 on enclosed inquiry slip

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A bank of Clippard Miniature Three-Way Air Valves (MAV-3) like this, cycled with Clippard Miniature Pneumatic Cylinders, Manifolds, Fittings and Accessories for automatic or semi-automatic work functions can produce immediately BANKABLE dollars and cents for you thru faster, better, more profitable output!

Clippard Miniature Pneumatic Devices are small in size, easy to mount and as versatile as your imagination. They are ruggedly made for millions of cycles of trouble-free operation, yet are surprisingly low in cost.

Keep a supply of Clippard pneumatic components on hand in your stockroom to lick that next automatic control, work feeding or holding operation on a moment's notice. Write NOW for free literature and attractive prices.

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Manufacturers of R.F. Coils, Electronic Equipment, Miniature Pneumatic Devices

For more details circle NED-580 D7 on enclosed inquiry slip

No more drudgery for me in cleaning grease-caked floors

Flip of switch re-sharpens brushes automatically!

His boss is happy too . . .

and should be. A Finnell 84XR Dry-Scrubber does the job in about one-tenth the time required to hand-scrape the floors, and spares maintenance men the back-breaking effort of manual methods. Two powerful scarifying brushes, with total spread of 22 inches, quickly loosen coatings of dirt, oil, grease, and shavings. Interchangeable rings and brushes adapt the machine to wet-scrubbing, polishing, and steel-wooling. (The Vac illustrated, *Finnell's 10C*, has 1½ hp By-Pass Motor. Tank holds 12 gallons *wet*, 1¼ bushels *dry*.) For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5504 East St., Elkhart, Ind.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

FINNELL

BRANCHES IN ALL PRINCIPAL CITIES

For more details circle NED-583 D7 on enclosed inquiry slip

GREASE SEALED IN . . . DIRT SEALED OUT . . .

FACTS about NEW DEPARTURE BALL BEARINGS

SENTRI-SEAL ON GUARD AGAINST DIRT

Grease stays *in* . . . dirt stays *out* . . . with New Departure Type AE adapter ball bearings. They're protected with Sentri-Seals, assuring highly efficient sealing at all speeds and under all bearing operating conditions.

These ball bearings are easily mounted . . . and at low cost. They eliminate the need for shaft shoulders, ground bearing seats or press fits, as well as separate seals or closures.

Installation is fast, with no special tools required. The eccentric cam has a self-locking action when tightened in direction of shaft rotation. Send for General Sentri-Seal Catalog S.

Type AE adapter bearings are available with either cylindrical or spherical outer rings for various applications.

NEW DEPARTURE

DIVISION OF GENERAL MOTORS • BRISTOL, CONN.

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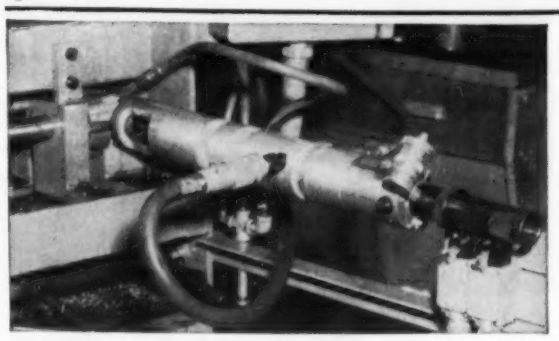

Here's versatility...

for drilling, reaming, spotfacing, countersinking, counterboring, center-drilling.

1. Use Keller Tool "AIRFEEDRILL"® for portable, precision drilling on jobs too big for the drill press.
2. Mount one or more "AIRFEEDRILLS" on a fixture for stationary drilling.
3. Compact "AIRFEEDRILL" design permits close mounting (2 to 20 spindles) for multiple drilling setups.

BULLETIN 92 explains the versatility of Keller Tool "AIRFEEDRILLS."

ENGINEERING FORESIGHT—PROVED ON THE JOB IN CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

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Gardner Denver Company, Quincy, Ill.

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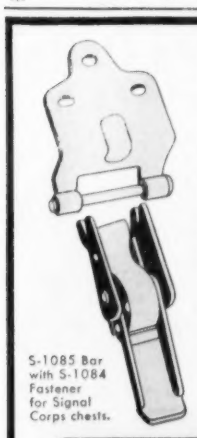

S-1085 Bar with S-1084 Fastener for Signal Corps chests.

for transit case and chest hardware to exact government specifications

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J. H. SESSIONS & SON

Write for catalog of hardware for Air, Signal and Engineer Corps Transit Cases and Chests, and other applications where government specifications must be met.

J. H. SESSIONS & SON
289 RIVERSIDE AVE., BRISTOL, CONN.

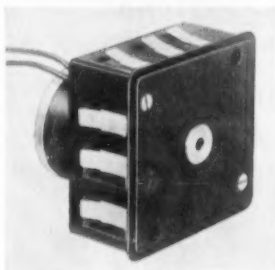
For more details circle NED-588 D7 on enclosed inquiry slip

LINED TUMBLING BARREL
designed for processing small parts

Seamless vinyl plastic liner of this White-Lined Mini-Tumbler barrel is noncontaminating and resistant to chemicals and abrasives. It is particularly suited for production processing of jewelry and other small precision parts. White interior assures visibility and ease of maintenance. For bench use, barrels are available in open conical and closed types. Illustrated model has 9-in. diameter and 3¾-in. depth. Made by **Rampe Mfg. Co.,** 14901 Woodworth Ave., Cleveland 10, O.

For more details circle NED-590 D7 on enclosed inquiry slip

CYCLING TIMER
contacts handle up to 30-amp loads



Type 571 cycling timer is equipped with one to four poles with contacts rated for 30 amp at 115 v ac. Speeds of 1 rpm to 1 revolution in 8 days are available. Either single-pole single-throw or single-pole double-throw open blade switches are used. Three-level cams and a neutral position in the latter switches can be supplied to control up to eight load circuits with a four-pole timer. Powered by a 50 or 60-cycle synchronous motor, timer uses factory-cut cams for the time cycle. UL-approved unit has quick-disconnect spade type terminals. Made by **Cramer Controls Corp.,** Box 281, Centerbrook 5, Conn.

For more details circle NED-591 D7 on enclosed inquiry slip

SUBMERSIBLE ELECTRIC PUMP
handles 3300 gph at 5-ft head

This compact 35-lb submersible electric pump will deliver 3300 gph at 5-ft head. Measuring 11 in. high and 11 in. wide, pump is powered by hermetically sealed 1½-hp, single-phase electric motor. It is corrosion resistant, even in salt water. Typical uses are utility pumping around plant and yard, and pumping out flooded basements. Float switch is standard equipment for automatic operation. Built-in thermal overload protector cuts off power if motor overheats for any reason. Made by **Speed King Mfg. Co.,** 615 Dublin Ave., Columbus 16, O.

For more details circle NED-592 D7 on enclosed inquiry slip

Save on Your INDUSTRIAL TRACK

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FOSTER Quality RELAYING RAILS

Lower installation and maintenance costs—handle more cars better.

Depend on Foster to match sizes and specifications to your exact requirements on any track job. Foster's nationwide warehouses also stock every Section of New Rail, 12# thru 175#, Switch Material and Track Accessories.

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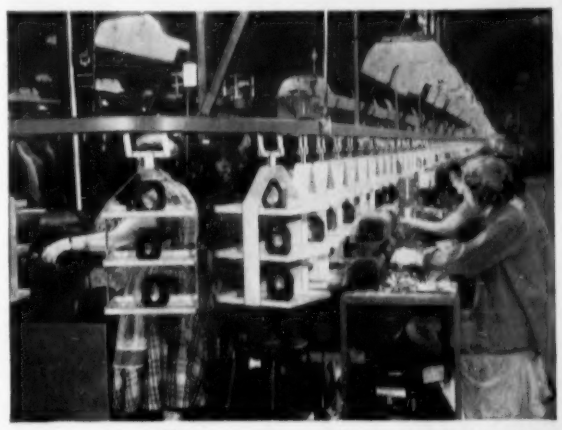
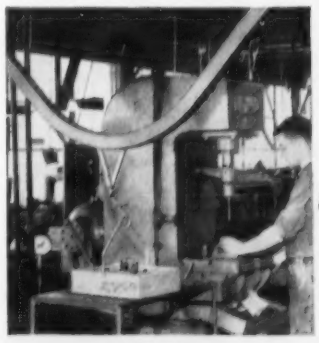
For more details circle NED-593 D7 on enclosed inquiry slip



R-W "Zig-Zag"® CONTINUOUS POWER CONVEYORS

provide real automation for COST-SAVING OPERATION!

The above photo illustrates how various materials handling problems on the machining and assembly lines were effectively solved, for an electric motor manufacturer, with R-W "Zig-Zag" Conveyors. "Stuffing-Trays" carry a continuous supply of work to assemblers seated on both sides of a huge bench and just as easily carry the finished assemblies on to other operations in the plant. This "Zig-Zag" system utilized available overhead space to increase production efficiency and provides for a saving of valuable floor space. R-W "Zig-Zag" Conveyors are flexible, easy to install, easy to alter or expand, economical to operate and offer longer, safer, more efficient materials handling service on any production line.



The photo (left) and line drawing demonstrate how the R-W "Zig-Zag" Conveyor automatically picks-up full trays and automatically deposits them at the unloading station. Machine operator starts cycle by merely sliding full trays into the conveyor path.

WRITE TODAY—for complete information request Catalog No. A-93R.

Richards-Wilcox MANUFACTURING COMPANY
"MATERIAL HANDLING DIVISION"

435 W. THIRD STREET • AURORA, ILLINOIS

For more details circle NED-594 D7 on enclosed inquiry slip

....at Your Service!

FEMCO CUSTOMER SERVICE CENTER

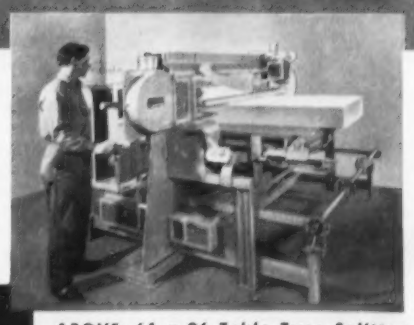
IF YOU are looking for a way to *profitably* and *accurately* Die Cut, Trim, Split or Shape any material, get in touch with us.

Our Customer Service Center (see photos) is equipped with FEMCO Special Machinery for the sole purpose of test cutting your material and furnishing you with a complete report without any obligation whatsoever.

FEMCO Special Machinery is already successfully Die Cutting, Splitting, Trimming or Shaping Polyvinyl Chloride Foams, Polyurethane, Plastics, Latex and Bonded Foams, Molded Rubber Goods, Rubberized Hair, Cellulose Sponge, Cork, Resin Bonded Fiber, Wood Fiber, Fiberglas, etc., and our machines are used by leading companies.

Send us samples of *your* materials now and we will give you a prompt report.

BELOW: FEMCO's 64 x 110 Automatic Leveling and Splitting Machine; also Heavy Duty Roller Die Cutter.



ABOVE: 64 x 96 Table Type Splitter with power driven table.

The FALLS ENGINEERING AND MACHINE CO.

1917 40th ANNIVERSARY 1957 Established 1917

1734 FRONT ST. CUYAHOGA FALLS, O.

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Whatever your nozzle problem, look first in this new catalog by Spraco. Here is complete information on a wide range of nozzle types and sizes as well as general spraying coverage data.

Send for your **FREE** *copy today . . .*

SPRAY
Engineering Company
106 Central Street, Somerville 45, Mass.

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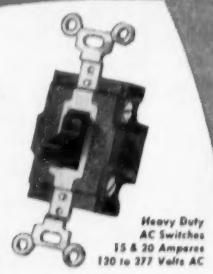
BUILT TO TAKE A BEATING

P&S

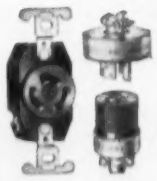
SUPER AC SWITCHES



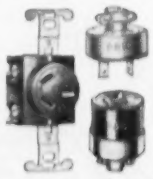
Made to surpass the most rigid requirements of specification wiring jobs, P&S Super AC Switches can't be matched for durability, dependability and versatility of application. Use them at FULL RATED CAPACITY for tungsten filament lamp loads, fluorescent installations, and at 80% of the switch rating on motor loads – the highest rating the National Electrical Code permits. Heavy silver-alloy contacts keep temperature rise at a minimum . . . a P&S Super AC Switch will handle full amperage 24-hours-a-day, seven-days-a-week.

P&S

TURNLOK and POLARIZED DEVICES



P&S TURNLOK® LINE – Designed for quick, easy back or side wiring. A simple turn of the cap gives positive, dependable connections—won't loosen or short out from hard usage. Connectors, receptacles and caps available in 10 and 20 Amp., 2, 3, and 4-wire types.



P&S POLARIZED DEVICES— Built sturdier with extra-thick bodies and extra-heavy metal parts to withstand rough usage over long periods of time. Ideal for industrial plants and construction work. A complete line of 10 and 20 Amp., 2, 3, and 4-wire connectors, receptacles, caps.

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In Canada: Renfrew Elec. & Refrig. Co. Ltd., Renfrew, Ontario

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cuts 3/16 to 2-in. holes to 8 in. deep

Weighing only 36 lb with motor and attachments, the Kor-It Jr. core cutter can drill clean holes in such hard surfaces as reinforced concrete. Diamond bits cut holes at up to 6 ipm in diameters from 3/16 to 2 in. Virtually noiseless, vibration-free drilling can be done at any angle and at depths up to 8 in. Extensions permit greater depths. A feed keeps a constant pressure on the bit. A ½-hp G-E 110 or 220-v motor turns the cutting bit at 3400 rpm. An ordinary hose connects to any faucet for water supply. Made by **J. F. Hamlin Co.**, Dept. ED, 746 Ellis St., San Francisco 9, Calif.

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HEAT TREATING FURNACE
operates at 1600° F under vacuum

Scale-free heat treating of steels, out-gassing reactive metals, vacuum brazing, diffusion coating, impregnation and aging of precipitation hardening alloys can be performed in this vacuum heating treating furnace. It operates from 1300 to 1600° F under vacuums up to 0.2-micron and frequently in excess of 2000° F. Unit consists of electrically heated furnace with controls and thermocouples, high speed diffusion pump, mechanical roughing pump and a vacuum-tight retort of Inconel nickel-chromium alloy. Loading and unloading is without disturbing piping or vacuum lines. Water-jacketed cooling maintains uniform temperatures. Back-flushing with inert atmospheres permits surface hardening of titanium. Made by **Pacific Scientific Co.**, Dept. VF, Grande Vista at Mines, Los Angeles 23, Calif.

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Hydraulic Jet Cleaners

Sellers Injector Corp.—Stationary and portable hydraulic jet cleaners for heavy duty industrial use in plant and machinery clean-up are described in 8-page illustrated bulletin 424. Machines operate on 50-psi steam pressure and have capacities ranging from 250 to 4000 gph. They are equipped with 50-ft neoprene hose, cleaning lance and nozzle with interchangeable disks.

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FOOTE BROS.
Better Power Transmission Through Better Gears
FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 S. Western Blvd., Dept. NE,
Chicago 9, Illinois

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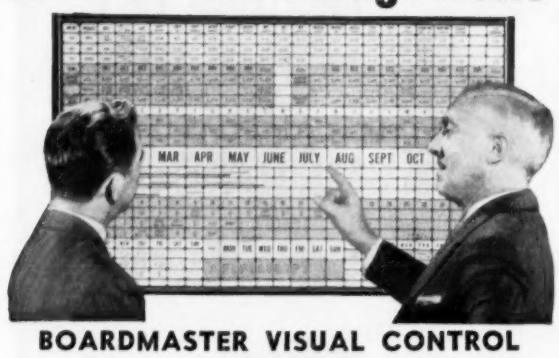
How To Get Things Done



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Gives you a Graphic Picture of your operations, spotlighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

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. . . when VFC fed the production line one-half million parts per hour WITHOUT HANDS . . . . . INDUSTRY MARVELED!

Successful automatic production depends on the uninterrupted delivery of components properly positioned and perfectly timed. Engineering and feeder know-how will help you accomplish this better in the least possible time. VFC is an authority in small parts feeding . . . Better production through better parts feeding is their business. If you want to produce more, write, wire, or call VFC.

VFC . . . . *VERY FINE CRAFTSMANSHIP*

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Division of Automation Devices, Inc.

REMEMBER:
Vibratory Feeder Company is a manufacturer of basic feeder and bowl equipment for the industry . . . . . .

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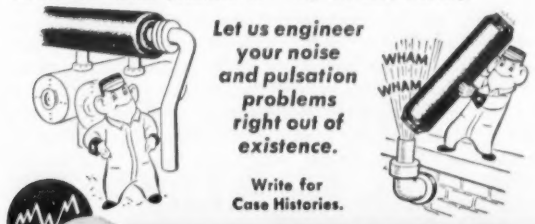
Intake and Exhaust NOISE

Pipe System PULSATION

Stopped with

BURGESS-MANNING SNUBBERS

The Burgess-Manning Snubbing Principle has been engineered to effectively eliminate the costly and nerve-racking problem of noise and pulsation. We have, for many years, specialized in the science, cause and effect of noise and pulsation problems. We have adapted the Burgess-Manning Snubbing Principle to many and varied problems in every branch of industry to increase production, minimize maintenance, eliminate this serious source of compensation claims and improve public and employee relations. Burgess-Manning Snubbers are available with such plus features as: air cleaning—or, spark arresting—or, surge control—or, water separating—or, heat recovery.



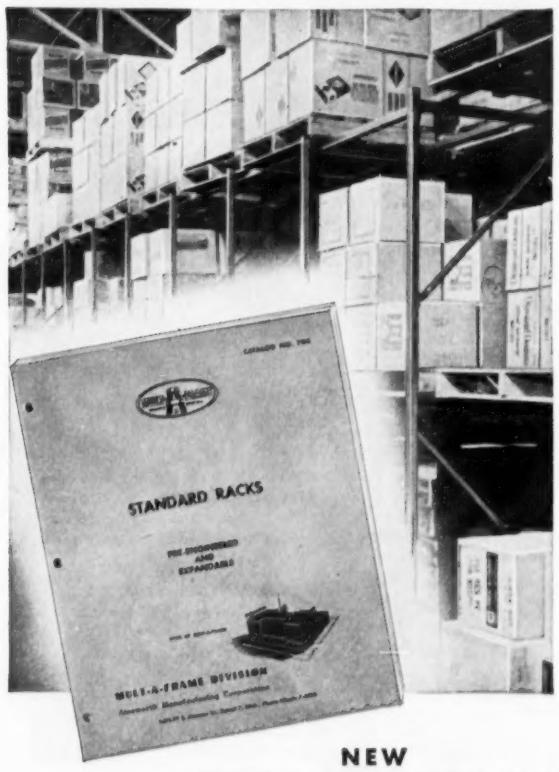
Let us engineer your noise and pulsation problems right out of existence.

Write for Case Histories.

BURGESS-MANNING COMPANY

Sound Engineering 755 East Park Avenue, Libertyville, Illinois
Dallas, Texas

For more details circle NED-605 D7 on enclosed inquiry slip



NEW MULT-A-RACK CATALOG

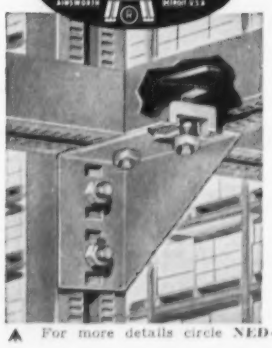
SOLVES RACK PROBLEMS AT A GLANCE!

Now 1800 *standard* Mult-A-Rack designs combine custom built versatility with production line savings. Here's all you do: just glance at the easy to read Mult-A-Rack catalog chart; identify your pallet type; check your load requirement; select rack size and order by number.

No skilled labor is needed to erect Mult-A-Racks. The only tool needed is a hand wrench. Rack areas change from time to time? Takes only a few minutes to disassemble and rebuild Mult-A-Racks. All parts are completely re-usable.

Like to learn more about how pre-engineered Mult-A-Racks save you time and money? Then send today for your free copy of the new Mult-A-Rack catalog – "Pre-engineered and Expandable Racks" – showing 1800 standard different rack designs.

MULT-A-FRAME



See the secret of Mult-A-Frame strength: Exclusive serrated edges that clamp together to prevent jackknifing. Note too the unique Mult-A-Frame spring T-bolt which holds fittings in place until ready for wrench tightening.

MULT-A-FRAME DIVISION
Ainsworth Manufacturing Corporation
1471 East Atwater St., Detroit 7, Mich.

For more details circle NED-606 D7 on enclosed inquiry slip

FIRE ALARM
installed in electric outlet

Thermostat of the Plug-Alarm fire protection device is set for about 140° F, at which point the alarm sounds. It continues until the temperature drops to about 100° F, automatically shutting it off. Unit is plugged in any standard 115 v, 60 cycle electrical outlet and has a safety lock to hold it in place. Current is used only during sounding of alarm. It can be tested periodically by applying heat, such as a cigarette as shown, to the small black disk at the front. Price is $7.95 each. Available from **Gardner Laboratory, Inc.**, 4724 Elm St., Bethesda 14, Md.

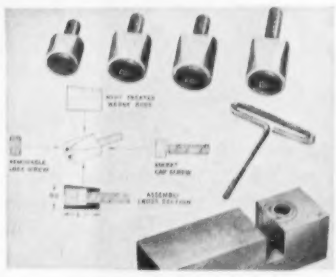
For more details circle NED-607 D7 on enclosed inquiry slip

DRIVE ADAPTERS
line includes reverse rotation type

Aluminum alloy is housing material used in two new flexible shaft drive adapters. Eight-ounce T-adapter is usable where space and weight are factors and where high speed and heavy torque are required. Reverse rotation adapter provides for transfer of power while reversing the rotation direction of a flexible shaft. It weighs 9½ oz and like the T-adapter, has a gear ratio of 1:1. Made by **F. W. Stewart Corp.**, 4313 Ravenswood Ave., Chicago 13, Ill.

For more details circle NED-608 D7 on enclosed inquiry slip

POSITIVE TOOL LOCK
operated with Allen wrench



This positive locking Vise-Lok wedge can be tightened or released with a T-type Allen wrench. It turns in for wedging and locking, and turns out for easy tool indexing or removal. Wedge consists of wedge body with 7-degree angle on the flat, left-hand threaded removable lock screw and a socket cap screw that draws wedge in or out of tool assembly. It can be used in tool holders, milling cutters, lathe tools, clamping devices, jigs and fixtures or any tool assembly requiring wedging action. Made in ⅜ to ¾-in. OD's and ⅜ to 1½-in. lengths by **Futurmill, Inc.**, 6360 Highland Rd. N.W., Pontiac, Mich.

For more details circle NED-609 D7 on enclosed inquiry slip

Inducto Furnaces...

HIGHER PRODUCTION — LOWER COST

INDUCTOTHERM CORP.
412 Illinois Ave. • Delanco, N. J.

For more details circle NED-610 D7 on enclosed inquiry slip

outstanding accuracy at lowest cost!

Find out how fast, accurate and economical small milling *can be!* U. S. Burke milling machines provide outstanding quality, dependability and convenience in operation . . . for hundreds of dollars less than leading competitors. Investigate U. S. Burke time and money-saving performance now!

U. S. No. 1 HAND MILLING MACHINE
. . . half the cost, twice the value!

A top-quality precision production tool . . . priced so low it's actually profitable to spot it around "looking for work" that can be kept out of the milling section. Accurate, rigid, simple and adaptable. Easily equipped with air-hydraulic feeds for high production. Detailed literature on request.

THE U·S·Burke MACHINE TOOL DIVISION
2 BROTHERTON ROAD, CINCINNATI 27, OHIO

For more details circle NED-611 D7 on enclosed inquiry slip

FREE BOOK Shows You Simple, Low Cost Way to CONTROL FLOW

It's easy and inexpensive to assure a constant rate of flow regardless of variation in line pressures. Dole Flow Control Valves are used on shower heads, drinking fountains, irrigation heads, air conditioning systems, ice makers and other applications.

If you have a problem where a constant rate of flow will help, send for this book. Yours for the asking.

The Dole Valve Company
1901 Carroll Avenue
Chicago 12, Ill.

DOLE 50

SEND FOR THIS BOOK

Here is a book CONSTANT FLOW showing how easy it is for you to have flow control. A copy will be sent without obligation.

Control with DOLE

For more details circle NED-612 D7 on enclosed inquiry slip

GREENLEE PRECISION BORING AT LOW COST

Model C-4 HYDRO-BORER

Offers precision boring quality at low cost. Easily mounted on any type of base. Fixtures can be mounted on face of machine.

Quick, easy setups. Rugged, fast, dependable. Designed to produce to the accurate requirements of fine tool work.

Model C-4 HYDRO-BORER
WRITE FOR COMPLETE INFORMATION

GREENLEE BROS. & CO.
2244 MASON AVENUE
Rockford, Illinois

For more details circle NED-613 D7 on enclosed inquiry slip

YALE

New High Capacity LOAD KING Hand Hoists

Now available in capacities up to 12 tons—completing the Load King Hand Hoist line famous for mechanical efficiencies as high as 95%. Features of extended line are:

- Fast lift with less pulling effort.
- Extra rugged, lightweight construction.
- Automatic brake and release action.

Write: The Yale & Towne Mfg. Co., Philadelphia 15, Pa., Dept. A-374.

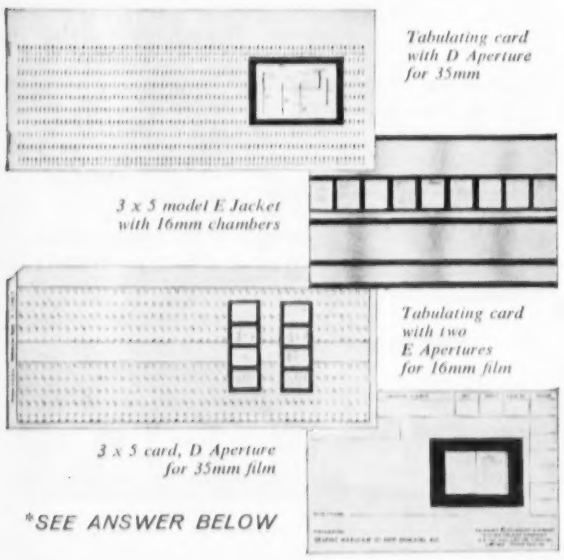
YALE* INDUSTRIAL LIFT TRUCKS AND HOISTS

*REG. U. S. PAT. OFF.

For more details circle NED-614 D7 on enclosed inquiry slip

QUESTION?

Which of these Filmsort Cards is used for Engineering Drawing Control?*



*SEE ANSWER BELOW

The Filmsort system comprises the most complete group of products and techniques available today for the unitization and mechanized handling of microfilmed documents.

The Filmsort system affords savings in space, time and personnel through the combination of microfilm with active card filing procedures. The cards illustrated above include two Aperture cards for the filing of single documents on 35mm film, an Aperture card to contain 16mm film, and a Jacket card for filing 16mm strip film. Each has varied applications for high reference microfilm records.

*Both the tabulating card with the D size Aperture and the 3 x 5 card for 35mm film are recommended for engineering drawing control. Where volume demands electrical accounting machine coding and sorting, the tabulating Aperture card is the key to active microfilm drawing files. Drawings in this form are quickly filed, sorted and selected, and can be duplicated in unitized form or used to produce enlargement copies direct from the film. The 3 x 5 standard file card is ideal for the smaller company with less drawing volume. The drawing name and number and other pertinent information can be indexed on the card for manual filing and sorting. In either case, the drawing in the card is easily and quickly located for reference in readers designed to meet the engineer's requirements.

The Filmsort method of engineering drawing control is but one of the many ways in which Filmsort unitized microfilm equipment and supplies can be used to create active microfilm files. For information on all Filmsort Systems, see your local Filmsort Distributor.

FILMSORT®

FILMSORT DIVISION
DEXTER FOLDER COMPANY
A Division of Miehle-Goss-Dexter, Inc.
Pearl River, New York

For more details circle NED-615 D7 on enclosed inquiry slip

AUTOMATED SOLDERING MACHINE feeds solder automatically to preheated parts on index table

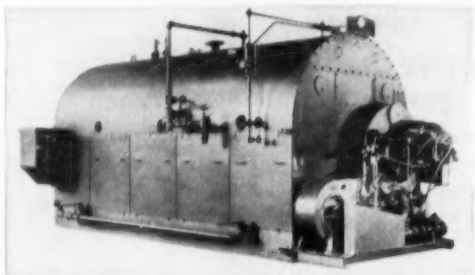
Production soldering is facilitated with this Braze-O-Matic automatic soldering machine. It feeds solder automatically through magazines to preheated parts for solder fabrication. A timing mechanism operates and regulates the flame and the exact amount of solder in coordination with parts fed into machine on the index table. Heat is localized at the point of fabrication to assure quality soldering at a high rate of production.

Equipment operates equally well with all forms of soldering on practically any type of metal. It requires only one operator. Signal system gives adequate lead time to permit replenishing of supplies for continuous operation. Made by **Castle Machines, Inc.**, Dept. NED, Erie, Pa.

For more details circle NED-616 D7 on enclosed inquiry slip

PACKAGED BOILERS 20 to 500-hp units feature off-center gas or oil firing

Either forced draft or induced draft fans are available on EconoTherm packaged boilers in sizes from 20 to 500 hp. All models have off-center "five o'clock"



firing tube which creates positive water circulation, increases safety with high column of water over the hot furnace, and eliminates surging and priming to deliver drier steam.

Down-draft third pass design, with third-pass gases passing through cooler portion of boiler, helps preheat make-up water and relieve boiler shock caused by temperature differential. All units can be fired with gas, heavy or light oil, or combination burners. More than 5 sq ft of heating surface is provided per rated horsepower. Controls include flame-failure safeguards. Made by **Hapman-Dutton Co.**, Dutton Boilers Div., Dept. 5763-EC, Kalamazoo, Mich.

For more details circle NED-617 D7 on enclosed inquiry slip

LIGHT, RIGID BOXES

STACK when full, NEST when empty

Delivery, manufacturing and materials handling operations are facilitated with this series of stacking-nesting type tote boxes. They are made of Chem-Board, a rigidized heavy duty corrugated board that is strong, lightweight and durable. Boxes have bail handles of 7-gage steel rod that flip in for stacking, and flip out and down for nesting to minimize storage space. Illustrated boxes measure 19 in. wide, 25 in. long and 13 in. deep. They weigh 9½ lb. Approximately 30 other sizes are available.

CONVOY, INC. Phone GReenwood 7-4569
P. O. Station B, Box 216-N CANTON 6, OHIO

For more details circle NED-619 D7 on enclosed inquiry slip

solve all YOUR sealing problems

Garlock KLOZURE* Oil Seals

Every part of KLOZURE Oil Seals is engineered to give superior service on the job for which it is intended. Through the various combinations of sealing elements, springs, and cases, the proper KLOZURE Oil Seal can be developed for any requirement. Whether your sealing problem involves high shaft speeds or temperatures; corrosive liquids, synthetic fluids, or limited space . . . there is a Garlock KLOZURE Oil Seal to solve it. Why not investigate and see?

*Registered Trademark

THE GARLOCK PACKING COMPANY, PALMYRA, N. Y.
For Prompt Service, contact one of our thirty sales offices and warehouses throughout the U.S. and Canada.

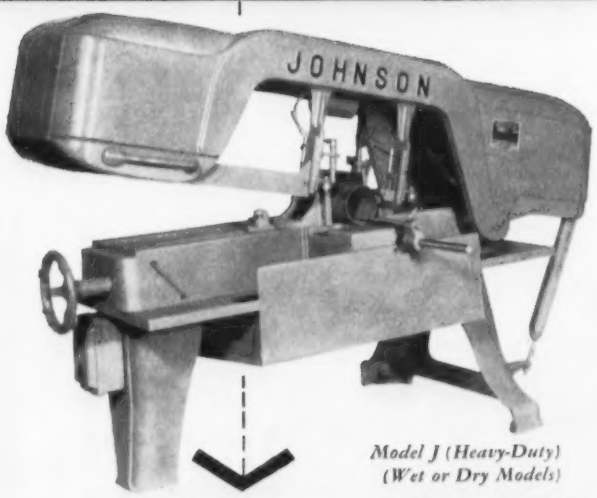
GARLOCK

Packings, Gaskets, Oil Seals, Mechanical Seals, Rubber Expansion Joints, Fluorocarbon Products

For more details circle NED-620 D7 on enclosed inquiry slip

THE BIG NEW Johnson "SPEAKS FOR ITSELF IN ANY SHOP!"

Johnson Model "J" . . . the heavy duty band saw that speaks for itself. No other saw handles so many operations so easily and so economically. Why pay more when a Johnson Model "J" can cut the 10" rounds, 18" flats and odd shaped steels of your shop in such labor saving time. The Big "J" is completely automatic—and is available in a wet or dry model, both with variable speed and centralized control system. You can't afford to miss any information on the rugged Johnson Model "J". Contact your dealer today!



Model J (Heavy-Duty) (Wet or Dry Models)

Eastern Distributor
R. J. R. KELLY CO.
Hale Bldg., 51 Main St.
East Orange, N. J.

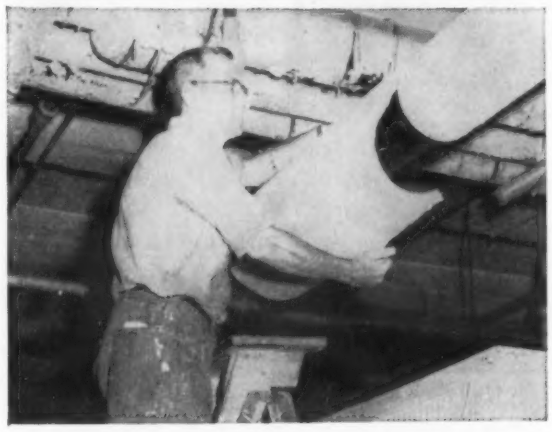
Midwestern Distributor
W. Q. LUNDMARK
75 N. Broadway
Des Plaines, Ill.

Western Distributor
HASTINGS DISTRIBUTORS
1605 Solano Avenue
Berkeley, Calif.

Johnson MANUFACTURING CORPORATION
Barnes and Taylor Sts. • Albion, Michigan

For more details circle NED-618 D7 on enclosed inquiry slip

New idea in pipe insulation



It's Snap*On, the only one-piece pipe insulation molded of fine glass fibers. Just open the seam—and it snaps on the pipe. Comes in 3 ft. and 6 ft. sections that one man can apply. Lowest applied cost and highest thermal efficiency of any insulation for cold and hot piping up to 350°. Lighter . . . tougher . . . permanent, yet reusable. Available in 62 cities, plain or jacketed in sizes up to 33". See Yellow Pages under "G-B Insulation" for local distributor or WRITE TODAY FOR NEW BROCHURE. **Gustin-Bacon Manufacturing Company,** 262 W. 10th St., Kansas City, Mo. *Advt.*

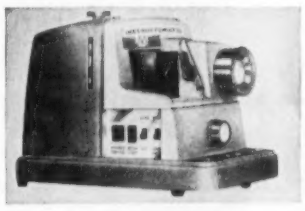
For more details circle **NED-621 D7** on enclosed inquiry slip

ELECTRODE HOLDER
feature prevents cable fraying

Cable-Splint device featured on Shortstub electrode holder (*NED, April '53*) is located between the current conducting core wires and the jacket to stiffen the cable and thus prevent the fine wires from breaking when holder is twisted during use. Forces of manipulation of the holder are carried by the strengthening device which curves to conform to cable curvature. Barbs penetrate the inner jacket surface to prevent creeping. Two screws in the holder body grip the reinforced cable. Made by **Bernard Welding Equipment Co.,** Dept. D, 10232 South Ave. N., Chicago 17, Ill.

For more details circle **NED-623 D7** on enclosed inquiry slip

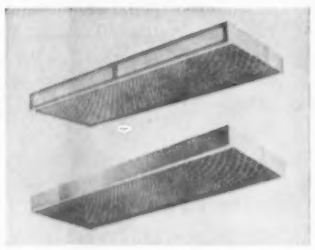
AUTOMATIC SLIDE PROJECTOR
timer controls viewing interval



Suitable for industrial and educational purposes, Instruct-o-matic slide projector takes 2 x 2-in. or Bantam slides. It has a 5-in. f3.5 Luxtar lens and 500-w illumination. It can be turned on and off, or slides can be changed from remote position. An automatic timer will change slides at any interval up to 60 seconds. Override button selects new slides, or hold button extends viewing time of any slide. Shutter gate operates during slide change. Made by **Viewlex, Inc.,** Dept. NED, 35-01 Queens Blvd., Long Island City 1, N. Y.

For more details circle **NED-624 D7** on enclosed inquiry slip

LIGHTING FIXTURE
features depth of only 4¼ in.



Depth of only 4¼ in. adapts these Slimlux lighting fixtures for close-ceiling mounting. Shown are the L.W. Slimlux with luminous light windows, and the S.S. Slimlux with solid steel sides which give 100 per cent downlight. Units are offered in two-light or four-light widths, in 4 or 8-ft lengths and with choice of Gratelite louver diffuser, metal cross baffles, or pattern-70 low brightness lens. Fixtures are fabricated of heavy gage, zinc plated and bonderized steel. Visible and reflecting surfaces are finished in gleaming baked-on Permalux white. Made by **Edwin F. Guth Co.,** 2603 Washington Ave., St. Louis 3, Mo.

For more details circle **NED-625 D7** on enclosed inquiry slip

NOW...A PIPE JOINT COMPOUND FOR DESTRUCTIVE FLUIDS, GASES and TOXICS

For pipe joints, plugs, all types of threaded connections, screwed fittings and flanges—alloys such as stainless steel and monel, non-ferrous metals such as aluminum, also plastics, synthetic rubber and carbon.

Eliminate dangerous leakers and loss of expensive fluids with "John Crane" Chemlon® Pipe Joint Compound. You'll find it the safe and sure answer to your most difficult pipe sealing problems.

Chemlon Pipe Joint Compound is recommended for the most destructive services encountered in industry. Compounded from a chemically-inert DuPont Teflon base, it permits positive handling of practically all known acids, corrosives, alkalis, solvents, biologicals, gases and toxics at temperatures to 212°F. It is without substitute for severe or hazardous conditions.

Order a 2-oz. trial jar. Request Bulletin PLS 515 for further details.

CRANE PACKING COMPANY

6411 Oakton St., Morton Grove, Ill. • In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

For more details circle **NED-627 D7** on enclosed inquiry slip

GORTITE

THE ORIGINAL FABRICATED SLEEVE!

1 or 1000 feet

1 or 1000 no molds

LOW min. HIGH max.

ALL SHAPES AND CONTOURS

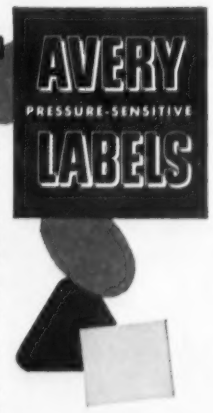
GORTITE is the new pliable protection that's fabricated from neoprene or Teflon as required. Zippers speed-up installation and special coatings prolong life. All GORTITE parts flex normally on their convolutions at temperatures −40°F. to 220°F. without cracking and thereby overcome the weaknesses of leather and molded rubber. Designs, layouts and cost estimates are mailed promptly on request. Ask for bulletin AH-3.

A&A Mfg. Company Inc.
2017 W. Clybourn St. • Milwaukee 3, Wis.

For more details circle **NED-622 D7** on enclosed inquiry slip

For *instant* identification try

Color coding with **AVERY PRESSURE-SENSITIVE LABELS**



Hundreds of manufacturers and businesses—from a San Antonio bakery to a New England thread mill—have turned to quick visual color coding with Avery pressure-sensitive Labels.

Instant dating and identification of the contents—by quality or quantity—saves valuable time and prevents costly errors—ends stockroom confusion!

Four basic labels can give almost any amount of data needed—they can be preprinted with standard information, then imprinted for each particular job *as it is used!*

Get the facts on how Avery can help solve *your* labeling problems—mail the coupon today!

Kum-Kleen®
KUM-KLEEN when you want a REMOVABLE label.

Perma-grip
PERMA-GRIP when you want a PERMANENT label.

AVERY ADHESIVE LABEL CORP., Custom Div. 102G
117 Liberty St., New York 6
608 S. Dearborn St., Chicago 5
1616 S. California Ave., Monrovia, Calif.
Offices in other principal cities

☐ Please send me case histories on color coding and free samples.
☐ Please have the Avery man call.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____
OUR BUSINESS IS _____

For more details circle **NED-626 D7** on enclosed inquiry slip

• WIDELY USED THROUGHOUT THESE INDUSTRIES

CUT COSTS ON EVERY CLEANING JOB WITH —

COLD STEAM

Precise control of air and water blasts heavy dirt or rinses sheets and small parts with a heavy, penetrating spray.

Air Craft
Automotive
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Food Processing
Foundries
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Leather
Meat Packing
Machine Shops
Marine

HYDRO-AIR
PRESSURE WASHER

- NO BACK SPLASH!
- BLASTS STUBBORN DIRT!
- HARMLESS TO FINEST FINISH!

$9.95

HYDRO-AIR Pressure Washer connects to regular air and hot or cold water supply. Composition rubber sleeve which fits over handle protects user's hand when hot water is used.

Inquiries invited from industrial cleaning compounders interested in resale.

Mining Equipment
Oil & Refinery
Optical
Paper
Pharmaceutical
Public Utilities
Repair Services
Railroad
Rubber
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Stone Polishing
Textile
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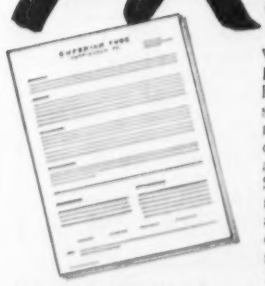
Transportation

D & M PRODUCTS, INC.
26 N. Raymond Ave., Pasadena 1, Calif.

For more details circle **NED-628 D7** on enclosed inquiry slip

FREE



NEW SUPERIOR BULLETIN LISTS 121 DIFFERENT TUBING ANALYSES

Write for a copy today—ask for Data Memorandum No. 1. Discover how Superior can be your one source of supply for small tubing needs. The Data Memo lists and describes 63 standard and 58 special analyses from which you can choose. Standard analyses are regularly carried in inventory. Special analyses are procured against customer orders. Tubing is produced in the seamless and Weldrawn® forms. In *every* case, you are sure of a premium quality product, made by the latest techniques under rigid quality controls.

The analyses include stainless, carbon and alloy steel, nickel and nickel alloys, copper and copper base alloys, glass sealing alloys, reactive metals and nickel cathode materials. Write for this list of the greatest variety of materials offered by any maker of small-diameter tubing. Ask for Data Memorandum No. 1.

FOR YOUR FREE COPY OF DATA MEMORANDUM No. 1, WRITE TO

Superior Tube
The big name in small tubing
2018 Germantown Ave.
NORRISTOWN, PA.

All analyses .010 in. to ⅝ in. OD—certain analyses in light walls up to 2½ in. OD

For more details circle **NED-629 D7** on enclosed inquiry slip

VERTICAL OUTPUT

Four sizes, PL-0-1-2-3. Ratios, 5-1 to 100-1. Capacities, ¼ H.P. to 4 H.P. Higher H.P. is attained in the heavier cases with low ratios.

DPL SERIES

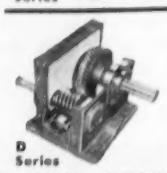
OHIO SPEED REDUCERS "off the shelf"

Ohio Stock Speed Reducers have been enthusiastically accepted among nationally known manufacturers for their sound engineering, long economical operation, and found to give the greatest satisfaction under a wide range of industrial applications.

HU Series

WORM ON TOP

Single reducers. Input shaft is above and output shaft below. Includes 5 sizes, HU-0-1-2-3-4. Ratios, 5-1 to 100-1.



D Series

DOUBLE SPEED

For heavy duty service, Nos. DOT and D-1-3-4-5-6. Ratios to 3200 to 1. Torque capacities, 25 to 12000 in. lbs.

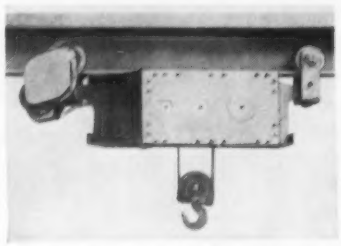
ESTABLISHED 1915

OHIO GEARS

THE OHIO GEAR COMPANY
1320 EAST 179 St. • CLEVELAND 10, OHIO

For more details circle NED-632 D7 on enclosed inquiry slip

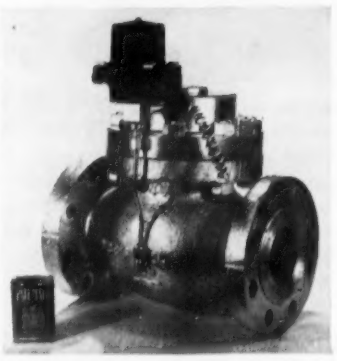
HEAVY-DUTY HOISTS
headroom requirements reduced



Radically - improved line of heavy-duty hoists requires 37 per cent less headroom and affords load control to within 0.008-in. Production models are offered in 3 to 15-ton capacities, along with special purpose models of 20 to 150-ton capacities. Low headroom feature is achieved by flat-lying U-shape arrangement of motor, gear box and drum. Motor and drum are parallel-mounted on the same side of the gear box, permitting load block to retract between them. Thus, on 3 to 7½-ton units, distance between rail and hook eye is only 21 in. Instant motor torque and use of two braking systems provide precise load control. Built for all-weather operation, hoists have plain, hand-geared or motor trolleys, and deck lug or hook mountings. Made by **R. G. LeTourneau, Inc.**, Dept. 41-35, 2399 S. MacArthur, Longview, Tex.

For more details circle NED-634 D7 on enclosed inquiry slip

SOLENOID VALVES
for liquid service up to 600 psi



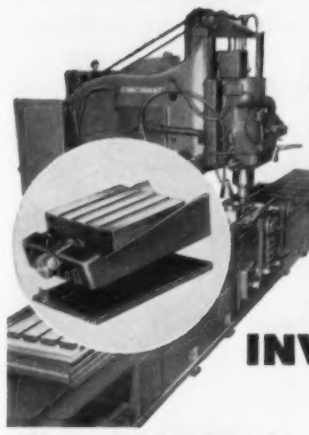
Cast steel solenoid valves for liquid service up to 600 psi are offered in 2, 2½, 3 and 4-in. sizes, in either globe or angle pattern with screwed or flanged pipe ends. Valves are designed to eliminate damaging hammer and shock in automatic or remote control and packless operation over wide pressure range. Greenclad, waterproof molded coils for up to 250° F, or silicone insulated coils for higher temperatures are available. They are interchangeable between sizes and with all other Gould valves. Made by **J. D. Gould Co.**, Dept. D, 4707 Massachusetts Ave., Indianapolis 18, Ind.

For more details circle NED-635 D7 on enclosed inquiry slip

Portable Power Tools

Skil Corp.—1957 catalog gives complete specifications of industrial, construction and automotive portable power tools. Included in line are drills, sanders, wood and metal saws, grinders, nut runners, power wrenches, sanders and many other electric power tools for production use. Also described are accessories for all of these tools. Required buying and specifying information is given in 48-page indexed catalog.

For more details circle NED-636 D7 on enclosed inquiry slip



MAN PROTECTING A BIG INVESTMENT!

The man above is making a fine, positive adjustment on an EMPCO Leveling Jack, setting the machine level . . . making certain it delivers precision performance with minimum downtime . . . minimum cost! EMPCO Jacks provide a solid, smoothly adjustable foundation for machine tools, large surface plates, automation lines, tool room and production equipment of all types.

Used together with VI-SORB Mounting Pads, EMPCO Jacks control internal and transmitted vibrations. They reduce noise, retard creepage and frequently eliminate the need for anchor bolts.

Jacks available in six styles, 25 models. Pads cut to fit. Write us about your machine installation problems.

Send Today For Descriptive Bulletin No. 100.
The Enterprise Machine Parts Corporation
2727 Jerome Avenue • Detroit 12, Michigan

EMPCO LEVELING JACKS

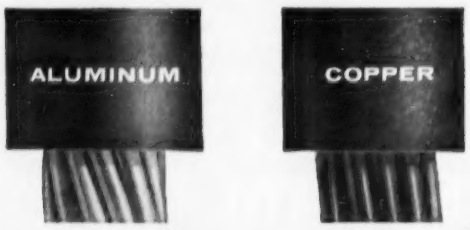
For more details circle NED-638 D7 on enclosed inquiry slip

up to 6,184 Drawer Compartments in only 3 sq. ft. of floor space!

Equipto

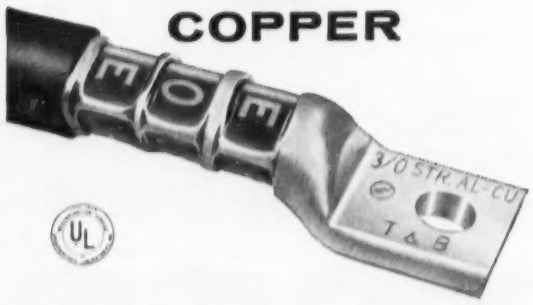
690 Prairie Avenue
Aurora, Illinois
Write for free catalog No. 202

For more details circle NED-639 D7 on enclosed inquiry slip



NOW!

THE SAME CONNECTOR JOINS EITHER ALUMINUM OR COPPER



T & B METHOD COMPRESSION CONNECTORS MAKE INSTALLATION SURE . . . EASY . . . PERMANENT

NEW VERSATILITY: UL listed for use on both aluminum and copper conductors. Accommodate the full range of wire sizes from #8 AWG to 1000 MCM. Available in one and two hole lugs and two way connectors.

NEW PERMANENCE: Hot tin coating and tight compression assure permanent, high-conductive joints every time.

EASIER INSTALLATION: Connectors and compression dies up to 3/0 are Color-Keyed® for instant identification and foolproof matching. Compression is fast and simple.

WRITE FOR YOUR CATALOG SHEET AND SAMPLE TODAY.

TBM5 HAND COMPRESSION TOOL installs #8 to 3/0 sizes. Color-Keyed® dies changed in seconds. Larger sizes install with hydraulic tools.

Sold only under The T&B PLAN of 100% Wholesaler Distribution

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street • Elizabeth 1, New Jersey
THOMAS & BETTS LTD.
Montreal, P.Q., Canada

T&B ENGINEERED

MANUFACTURERS OF FINE ELECTRICAL FITTINGS SINCE 1898

For more details circle NED-633 D7 on enclosed inquiry slip

weighs only 35 lbs.

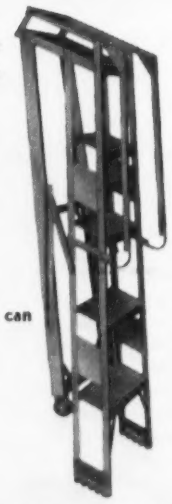
ALCO-LITE TYPE 600 WAREHOUSE LADDER

Each step is permanently riveted with 8 rivets - 2 in front and 2 in back, on both sides.

Although it's built for the roughest, heaviest warehouse duty—it can be handled very easily by a single person.

Only a ladder made of high tensile strength aluminum alloy can be made so strong, yet be so lightweight. Type 600 is built with heavy gusset plates and riveting throughout. The ladder stands 5' high and features a roomy 14" by 18" non-slip platform and 6" wide corrugated non-slip steps. Additional safety features include a hand rail and rubber feet on the front legs. Rubber tire casters on the rear legs make the ladder very maneuverable. More than meets ASA and Metal Ladders Association standards.

Where storage is a problem—these ladders can be built to fold.



For NEW General Catalog, plus further information on Type 600 write to Department 5M.

Original Manufacturer of Aluminum Ladders
Aluminum Ladder Company
WORTHINGTON PENNSYLVANIA

For more details circle NED-637 D7 on enclosed inquiry slip

SOLID CARBIDE DRILLS and REAMERS

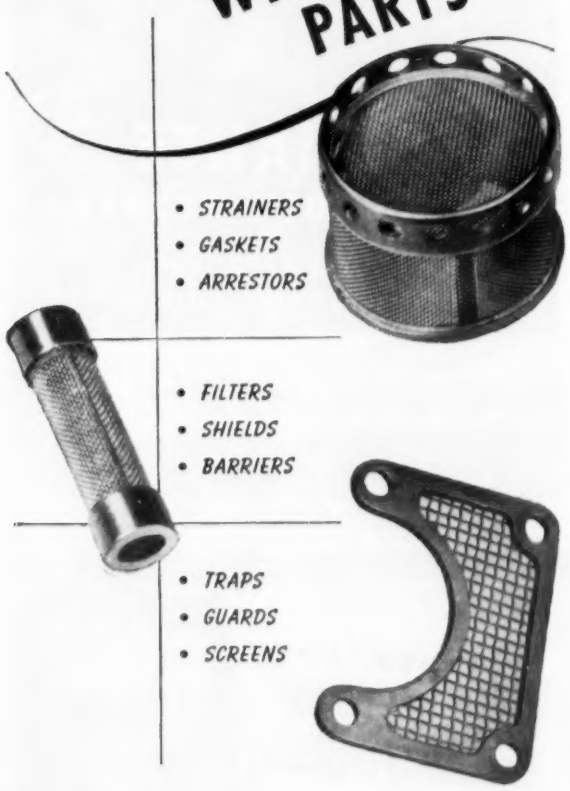
—precision machine ground. | —complete size range in stock, specials available. | —quality proved by Elgin for accuracy and long life.

WRITE TODAY for details on this latest addition to Elgin's "Golden Circle" Rotary Tool Line of solid carbide burs and end mills.

ABRASIVES DIVISION, DEPT. I
ELGIN NATIONAL WATCH COMPANY
Elgin, Illinois

For more details circle NED-640 D7 on enclosed inquiry slip

SPECIAL WIRE CLOTH PARTS



- STRAINERS
- GASKETS
- ARRESTORS
- FILTERS
- SHIELDS
- BARRIERS
- TRAPS
- GUARDS
- SCREENS

Just to name a few . . . and most of the parts we are making to special order don't really have a name! Our real specialty is fabricated wire cloth parts, made to your specifications.

Any metal, almost any size, almost any shape . . . we can probably assemble it for you . . . faster, better and at a lower cost, than you can do it yourself.

For more information, just send for our latest Fabricated Parts Catalog.

NEWARK for ACCURACY

Newark Wire Cloth COMPANY
351 VERONA AVENUE • NEWARK 4, NEW JERSEY

For more details circle NED-641 D7 on enclosed inquiry slip

MASONRY ANCHOR KITS include screws and setting tool

Lead anchors, an equal number of machine screws and a spring-action setting tool comprise Hi lead anchor kits, packaged in a 7¼ x 3¾ x 1¼-in. transparent plastic box. Anchors have copper-coated steel inserts, and matching zinc plated screws have milled heads. Kit No. K-24 contains 100 size 10-24 lead anchors, 100 10-24 x ¾-in. screws and one setting tool. Kit No. K-20 includes 50 size ¼-20 anchors, 50 ¼-20 x 1 in. screws and a setting tool. Made by **Holub Industries, Inc.**, 411 DeKalb Ave., Sycamore, Ill.

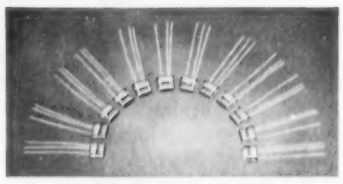
For more details circle NED-642 D7 on enclosed inquiry slip

SYNCHRONOUS MOTOR delivers 30 oz-in. torque at 1 rpm

Type 114 permanent magnet synchronous motor will deliver 30 oz-in. of torque at 1 rpm. It also features a wide selection of speeds from 60 rpm to ½-revolution per day. Applications include instrumentation and automatic controls, vending machines or any device in which accurate drive is necessary. Motor can be provided with variety of output shaft dimensions. Instant start and stop, input of about 3.25 w and permanent lubrication are other advantages. Motor operates on all standard alternating current voltages and has overall depth of 1 5/16 in. Components are UL-approved. Made by **Cramer Controls Corp.**, Box 281, Centerbrook 5, Conn.

For more details circle NED-643 D7 on enclosed inquiry slip

SILICON TRANSISTORS usable for high temperature service



Typical gains of 34 to 40 decibels are developed by NPN grown-junction silicon transistors which operate at high temperatures and can be stored in a temperature range from −55 to 175° C. Increased emitter diode rating adapts them for such equipment as computers, servos and magnetic amplifiers. Standard emitter voltage is 1 v, but special types range to 5 v. Low series resistance in the collector side makes switching applications feasible. Made by **Bogue Electric Mfg. Co.**, Dept. LS-1, 52 Iowa Ave., Paterson 3, N. J.

For more details circle NED-644 D7 on enclosed inquiry slip

NOW . . . high efficiency
Filters, Regulators, and Lubricators for Air Supply to Pneumatic Equipment

with the NEW WATTS high efficiency LINE

WATTS high efficiency FILTER
New TORNADO ACTION . . . sets up centrifugal force which spirals dirt and moisture downward into "quiet zone."

WATTS high efficiency REGULATOR
New ASPIRATOR ACTION . . . gives instant compensation for fluctuating pressure demands.

WATTS high efficiency LUBRICATOR
New BY-PASS PICKUP . . . makes possible high velocity venturi section which vaporizes virtually 100% of the metered oil.

Complete range of Sizes: ¼", ⅜", ½"

BOWLS CAN BE REMOVED IN 30 SECONDS

WATTS REGULATOR COMPANY SINCE 1875
20 EMBANKMENT ROAD LAWRENCE, MASSACHUSETTS

Write for complete information

For more details circle NED-645 D7 on enclosed inquiry slip

Useful New Bulletin . . . ASKANIA ELECTRO-HYDRAULIC VALVE ACTUATOR

Here's a well illustrated, informative bulletin with ample facts, photos and drawings to show you the advantages of an all-electric control system using this unique valve actuator.

You'll want to know "why"
There are numerous reasons why this new electro hydraulic final control element is the answer to many control problems. Bulletin #38.2 contains the type of information engineers want at their fingertips.

Keep informed—write for your copy
Regardless of your present needs, you'll want to keep abreast of this latest development which revolutionizes FINAL CONTROL problems. Just write Askania Regulator Company, 258 E. Ontario, Chicago 11, Ill.

ASKANIA REGULATOR COMPANY
"CONTROLS FOR INDUSTRY"
HYDRAULIC, ELECTRONIC CONTROLS & SERVOS, GENERAL SYSTEMS, ENGINEERING & COMPUTER SERVICE, VALVE ACTUATORS & CYLINDERS
A SUBSIDIARY OF GPI

For more details circle NED-646 D7 on enclosed inquiry slip

FREE SAMPLE!

FLEXIBLE, LIQUID-TIGHT CONDUIT OUTLASTS ORDINARY METAL CONDUITS

Sealtite* flexible, liquid-tight electrical conduit is rapidly replacing rigid conduit in many plants for certain installations. It's easier, less costly to install (especially in cramped spaces) and actually outlasts ordinary metal conduits in moist or corrosive atmospheres. A tough, extruded polyvinyl jacket seals out water, dust and corrosive fumes . . . protects wiring from weather, oil and chemicals. Sealtite can be installed indoors or out; is ideal where conduit must flex or be moved, absorb vibration or meet misaligned outlets. Write for free sample and Booklet S-537 giving full information. Address: *The American Brass Company, American Metal Hose Division, Waterbury 20, Conn.*

*Trademark 57197

SEALTITE flexible, liquid-tight conduit . . . AN ANACONDA® PRODUCT

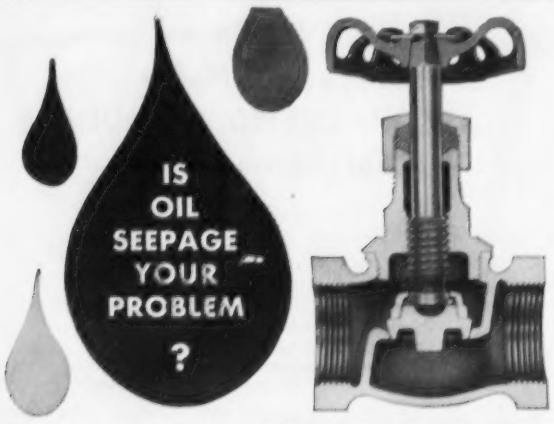
For more details circle NED-647 D7 on enclosed inquiry slip

Signode ball-top table speeds strapping...simplifies handling

Put Signode ball-top tables in your packaging lines and watch output rise! These handy tables enable a worker to handle and strap heavy containers with greater ease and less fatigue. They are ideal, too, for use at independent strapping stations scattered throughout your plant. Use with other Signode high-speed strapping equipment to make your products cost less to handle, strap and ship. Write for details and prices.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices coast to coast.
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

For more details circle NED-648 D7 on enclosed inquiry slip



If you are bothered by lubricating, fuel or process oil seepage when valves are supposedly closed "tight," try an O-B No. 101 brass disc valve with the hair-line closure.

This valve is especially designed for oil and other hard-to-hold fluids. The seat and disc are machined to make a fine contact that fractures surface tension of oil film, giving a tight, leakproof shut-off.

Ask your distributor about O-B No. 101 globe or No. 102 angle valve, for all standard pressure oil, water, gas, or steam service.
4730-V

O-B VALVES Ohio Brass MANSFIELD OHIO, U. S. A.

For more details circle NED-649 D7 on enclosed inquiry slip

THE EXECUTIVE
Sleek, modern, low to the floor design · On-center pivot action · Guaranteed mechanical interlock prevents accidental tripping of two circuits.

TREADLITE
One treadle · No larger than a pack of cigarettes · Responds to slightest pressure · Smart design

for every conceivable **footswitch** need... turn to

LINEMASTER

AMERICA'S **FOOTSWITCH** LEADER FOR OVER 20 YEARS

LEKTRO-LOK
Economical teeter-totter · Requires no costly harness assemblies · Mechanical interlock allows only one circuit to function at a time · Dependable · Lightweight

Here are 3 styles of 2-in-1 switches . . . typical of the tremendous variety offered by Linemaster in more than 5 different models of all types. Let us quote on YOUR switch requirements.

All have selective circuits.

Write TODAY for bulletins and prices.

LINEMASTER SWITCH CORP. 424 Woodstock Terrace Woodstock, Connecticut

For more details circle NED-650 D7 on enclosed inquiry slip

LETS ONE LINE MOVE, STOPS THE OTHER

• Used where two sections of power, belt, live roller or chain conveyor converge, the Ultimate Traffic Cop permits one case, can, carton or box to pass on one line while the other line is stopped by the arm. When flow of material ceases, or sufficient gap occurs on line, material on other line passes.

FREE!

MAIL THIS COUPON

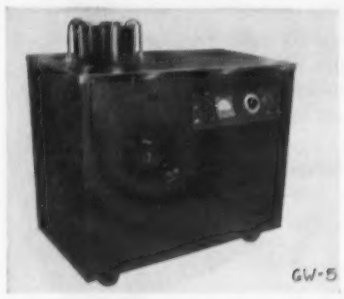
ISLAND EQUIPMENT CORP. Dept. NED 4
27-01 Bridge Plaza North
Long Island City 1, N. Y.

Please send Bulletin TC-1 describing the ULTIMATE TRAFFIC COP.

COMPANY .....
BY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

For more details circle NED-651 D7 on enclosed inquiry slip

ULTRASONIC CLEANERS
offered with solvent for the job



Cleaning process combines the ultrasonic scrubbing action of two ultrasonic cleaners and a choice of custom-blended solvents suited to the application. Cavitation caused by vibrating the cleaning liquid at high intensity with transducers does not damage the most delicate parts. Model G-W-5 has an 8¾-in. diameter by 4½-in. deep stainless steel treatment chamber and a 20-kc magnetostrictive transducer in a 33½ x 19 x 29-in. cabinet. Designed for continuous use, it has a 5-micron brass filter system, forced ventilation and operates on 115 v, 60 cycles single-phase ac. Model G-W-4 has a 6 x 3¾-in. stainless steel chamber, a similar transducer and is housed in a 23½ x 16 x 12½-in. cabinet. Other features are similar. Made by **Blackstone Corp.**, Dept. ED, 1111 Allen St., Jamestown, N. Y.

For more details circle NED-652 D7 on enclosed inquiry slip

VACUUM SYSTEM
for lab or production use, develops vacuum as low as 3 x 10^{-5} mm Hg

Designed primarily for laboratory coating of various materials with vaporized metals, type LC1-18A vacuum system can also be used to degas liquids, grow crystals, melt metal samples and degas vacuum tube electrodes. Pumping system includes a three-stage oil diffusion pump and affords choice of 13, 15, 27 or 130-cfm mechanical pumps for roughing and backing. Pump-down time is 5 minutes to 0.5-micron of mercury, with ultimate pressure of 3 x 10^{-5} mm of mercury. With fractionating oil diffusion pump, ultimate pressure of 3 x 10^{-6} mm mercury can be reached.

Pressures from 2 mm to 1 x 10^{-7} mm mercury, in 18 x 30 in. Pyrex bell jar and in fore-pressure lines are measured by new discharge and Pirani gages. Leaks from 1 micron to 10 mm of mercury are detected. System is equipped with roughing, backing and air inlet valves, plus water-cooled combination valve and baffle to minimize backstreaming of oil vapors. All controls are cabinet-mounted and accessible. Made by **Consolidated Electrodynamics Corp.**, Rochester Div., 1775 Mt. Read Blvd., Rochester 3, N. Y.

For more details circle NED-653 D7 on enclosed inquiry slip

EXTERMINATE THE LITTER BUG WITH BENNETT WASTE RECEPTACLES

Cleanliness is automatic by conveniently placing Bennett Waste Receptacles to invite their use. Yes, "litter bugging" is eliminated with these easy-to-use, sanitary and economical waste receptacles. Put them to work reducing your cleaning costs and increasing neatness.

Wherever people gather there is a logical location of Bennett Waste Receptacles —America's most complete line including self-closing and drop-in models. Write today for catalog and prices.

WRITE FOR FULLY ILLUSTRATED CATALOG

BENNETT SELF-CLOSING WASTE RECEPTACLES available in 12 models

THE BENNETT MANUFACTURING CO.
ALDEN, N. Y.
Bennett Bilt is Better Bilt

For more details circle NED-654 D7 on enclosed inquiry slip

LOAD FROM GROUND QUICKLY
—and on the level

Trucks and trailers are loaded and unloaded—without manual lifting or pushing, without tilting or breakage—with Globe Loading Lifts. Handling costs are reduced, damage to goods and safety hazards eliminated.

Easily installed at low initial cost, inside or out. Platform raises to height of 58", lowers level to floor. Sturdy power cylinder operated by air-oil unit or Globe Oil Pump. Push-button control if desired. Immediate shipment.

Write for complete data. Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.

GLOBE® LOADING LIFT
PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.

For more details circle NED-655 D7 on enclosed inquiry slip

TENSION WHERE YOU NEED IT IN BOLTED ASSEMBLIES

RELIANCE SPRING LOCK WASHERS
AN 935 APPROVED
Send for ENGINEERING BULLETIN W-50

EATON RELIANCE DIVISION MANUFACTURING COMPANY 509 Charles Avenue • Massillon, Ohio

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT CHICAGO • ST. LOUIS • SAN FRANCISCO • MONTREAL

For more details circle NED-656 D7 on enclosed inquiry slip

Combines fine engineering *and* economy!

...new FOXBORO Pressure Transmitter

- **Scale easily readable at 20 ft.**
- **Standard time-proved component parts**
- **Simple calibration "on location"**
- **Compact integral instrument**

The new Foxboro M/44 Pneumatic Pressure Transmitter gives you a unique combination of fine engineering and economy. It's a compact, integral instrument . . . no attachments or "makeshifts." Utilizing standard, performance-proved Foxboro parts throughout, it assures you not only top performance, but easier stocking and servicing as well. "Convenience-design" makes calibration in the field a cinch. Drawn-steel, weatherproof, air-purged case with tough polyester plastic cover. A neat, high-efficiency, low-cost instrument for centralized operation or control. All standard ranges. Write for full details. **The Foxboro Company, 664 Neponset Ave., Foxboro, Mass.**

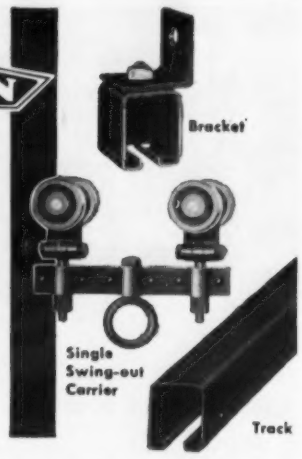
FOXBORO REG. U. S. PAT. OFF. INSTRUMENTATION

For more details circle NED-657 D7 on enclosed inquiry slip

COBURN

OVERHEAD CONVEYING EQUIPMENT

simple, easy installation



Coburn track, brackets and carriers are simple in design . . . present no complicated installation problems. In fact, your own plant personnel can easily handle the job. Inexpensive re-arrangement or extension can also be made at any time because of the section design of Coburn Overhead Monorail.

Write for Catalog #220 to Coburn Sales and Engineering, 56 Sterling Street, Clinton, Mass.

THE COLORADO FUEL AND IRON CORPORATION • Denver and Oakland
WICKWIRE SPENCER STEEL DIVISION • Atlanta • Boston • Buffalo
Chicago • Detroit • New Orleans • New York • Philadelphia

1984

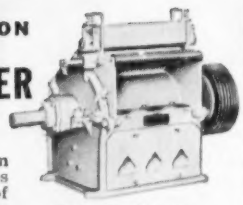
COBURN PRODUCTS
PRODUCTS OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CFI

For more details circle NED-658 D7 on enclosed inquiry slip

FOR GRANULATING UNIFORM PARTICLES IN LARGE VOLUMES!

SPROUT-WALDRON *ROTARY*

KNIFE CUTTER



Write for Bulletins 141 & 101

The Sprout-Waldron Knife Cutter produces granular particles of more uniform size than is obtainable through most other types of machines . . . at great capacities. Unique arrangement of knives and screens assures clean-cut uniform particles. Customary frictional heat is reduced. Ideal for pre-cutting rags or leather . . . flocking continuous strips of alpha pulp . . . granulating cork or thermoplastic stock . . . and for hundreds of other uses.

For all other problems, too, involving single or combined phases of size reduction, Sprout-Waldron has your one best answer. Complete lines of crushers, hammer, roller, and attrition mills, and equipment for feeding and removing materials from these units are available. And our long years of experience in planning and designing size reduction installations are at your service. Write for details.

SPROUT-WALDRON
Manufacturing Engineers Since 1866
8 LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

IN/501

For more details circle NED-659 D7 on enclosed inquiry slip

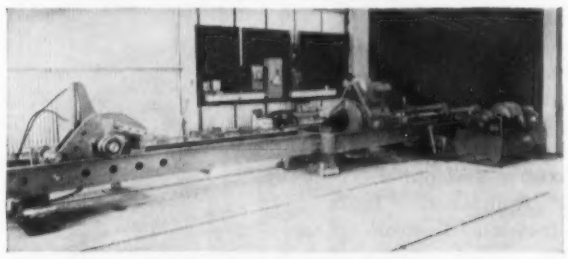
MOLECULAR MODEL SETS
make three-dimensional structures

Accurate three-dimensional representations of molecular structures can be made with this molecular model set, dimensioned after the Stuart pattern. Eleven elements in their various valency states are included: hydrogen, carbon, nitrogen, phosphorus, oxygen, silicon, sulphur, fluorine, chlorine, bromine and iodine. Each is designed to represent the three basic dimensions of the atom — bond length, bond angle and spherical diameter. Sets include 250 atomic models of Catalin cast phenolic resin, hard rubber pegs for joining atoms to form molecules, pliers for extracting pegs and drawings showing dimensions and facial angles of each atom. Cost is $210, with additional atoms 85 cents each. Distributed by **Arthur F. Smith Co.**, Dept. A, 311 Alexander St., Rochester 4, N. Y.

For more details circle NED-661 D7 on enclosed inquiry slip

EXTRUSION STRAIGHTENER
for 6 to 100-ft aluminum shapes

Any extruded aluminum tube, bar or structural shape that can be enclosed within an 8-in. diameter circle can be stretched, straightened and detwisted by this



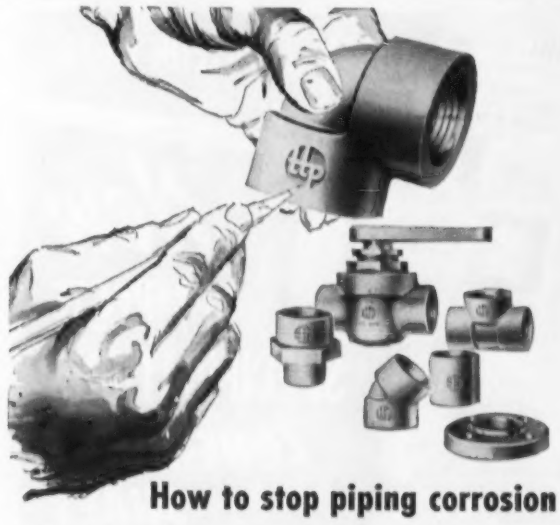
machine. Lengths from 6 to 100 ft, or longer, can be handled at production speeds. Jaws in the headstock and tailstock are vertically positioned for a fast horizontal material pass line. Passage is provided for the extrusion through the detwisting head. Headstock can be turned an infinite number of turns for removing twist during stretching. An automatic control returns the headstock to its zero position after detwisting. Made by **Sutton Engineering Co.**, Room 1306, First National Bank Bldg., Pittsburgh 22, Pa.

For more details circle NED-662 D7 on enclosed inquiry slip

Ratchet Hoist

Yale & Towne Mfg. Co.—Illustrated 8-page catalog 5092 explains operation and uses of roller chain and link chain Pul-Lifts with capacities from ¾ to 15 tons. These versatile ratchet hoists can be used for pulling, lifting, moving and other operations.

For more details circle NED-663 D7 on enclosed inquiry slip



How to stop piping corrosion

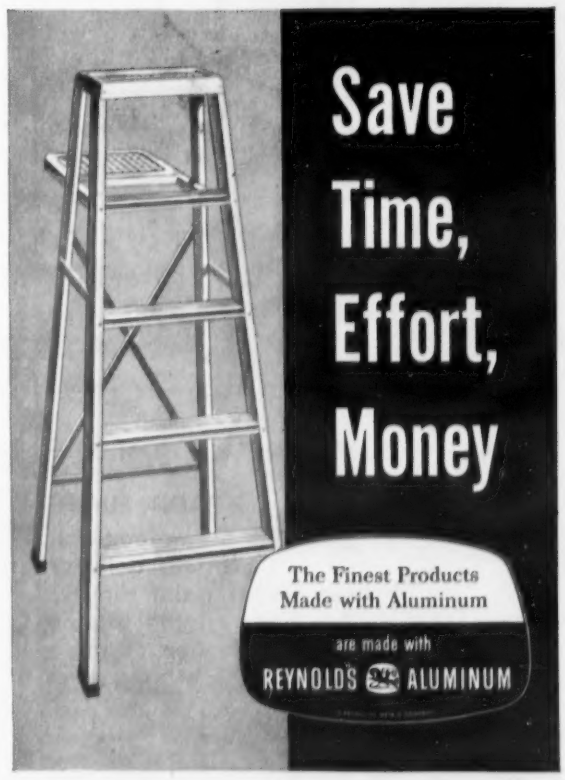
This mark identifies the leading brand of PVC fittings, flanges and valves. Made by Tube Turns Plastics—injection molded by the exclusive Hendry process — unsurpassed for *strength* and *uniformity*.

The **ttp** line is complete and is available nearby. For complete information, write for Bulletins 119 and 122. Tube Turns Plastics, Inc., Department PN-4, 2929 Magazine Street, Louisville 11, Kentucky.

TUBE TURNS PLASTICS, INC.
Louisville 11, Kentucky
Call your TUBE TURNS PLASTICS' *Distributor*

For more details circle NED-664 D7 on enclosed inquiry slip

Strong, Lightweight ALUMINUM LADDERS



Aluminum ladders are easier, much easier, to move from job to job. This means savings in time and labor. And because they keep their shape, won't warp, twist or rot, aluminum ladders are safer—always keep their feet on the ground.

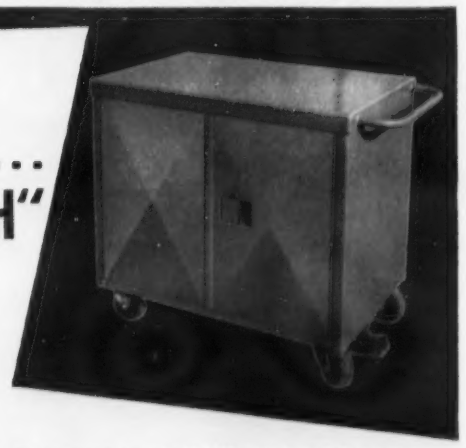
When purchasing ladders for use in your plant, remember their extra long life makes actual cost lower. For the names of leading ladder manufacturers who use strong, lightweight, rustproof Reynolds Aluminum, write *Reynolds Metals Company, P.O. Box 1800-NO, Louisville 1, Kentucky.*

See "CIRCUS BOY",
Reynolds exciting dramatic series, Sundays on NBC-TV

For more details circle NED-665 D7 on enclosed inquiry slip

Now . . . a workbench where and when you want it! . . .
THE NEW MOBILE "ROLL-A-BENCH"

7356-OK



A maintenance department on wheels! Here's a mobile workbench that can be rolled to work location by one man . . . with compartments for tools and spare parts . . . with doors that can be locked.

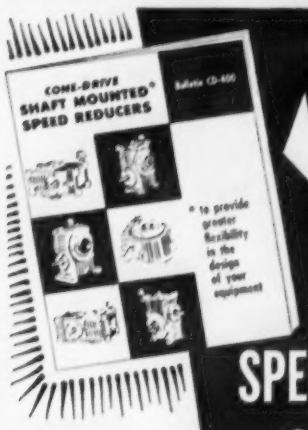
The ROLL-A-BENCH . . . all-welded 1/8-inch and 3/16-inch steel plate constructed . . . is capable of supporting up to 2000 pounds safely. Heavy-duty roller bearing wheels (hard rubber or phenolic resin) are furnished. A foot-operated locking mechanism securely positions the work-bench assuring stable working surface. Vise optional.

Write today for literature and prices or . . . CALL MOntrose 2-4242.

the Overbeke-Kain company

THE OVERBEKE-KAIN COMPANY
20979 Aurora Road • Bedford, Ohio

For more details circle NED-660 D7 on enclosed inquiry slip



BULLETIN CD-400

New COMPLETE SPECIFICATIONS

CONE-DRIVE SHAFT MOUNTED SPEED REDUCERS

★ fractional to 13 hp
★ reductions from 5:1 to 60:1
★ readily motorized
★ feature Cone-Drive double-enveloping worm gear design for maximum load-carrying capacity in minimum size.

CONE-DRIVE GEARS DIV.
MICHIGAN TOOL COMPANY
7171 E. McNICHOLS RD. DETROIT 12, MICH.

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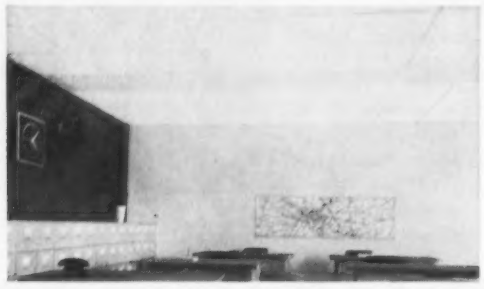
CEILING LIGHTING SYSTEM allows artistic custom designs

The Sylva-Lume modular, interchangeable plastic panel lighting system permits almost limitless variety of overall patterns of color, form and style for wall-



to-wall fluorescent ceiling lighting. System is adaptable to offices, stores, schools and public buildings. It is made up of an extruded aluminum track system attached to ceiling, 3-ft square contoured vinyl plastic diffusers, acoustic wedges or baffles, flat steel perimeter units, a new outrigger fixture and lamps. System can be altered at will simply by rearranging the shielding. Offered by **Sylvania Electric Products Inc.**, Dept. A, 1740 Broadway, New York 19, N. Y.

For more details circle NED-668 D7 on enclosed inquiry slip

P-K hardened Screwnails give you nail driving speed plus screw holding power

Fasten sheet metal to wood...wood to wood in seconds!

For the finest fasteners made, insist on Parker-Kalon...the name you can trust. Get samples from leading distributors who stock P-K Screwnails . . . or write:

IF IT'S P-K IT'S O.K.

PARKER-KALON fasteners
Parker-Kalon Division • General American Transportation Corporation • Clifton, New Jersey

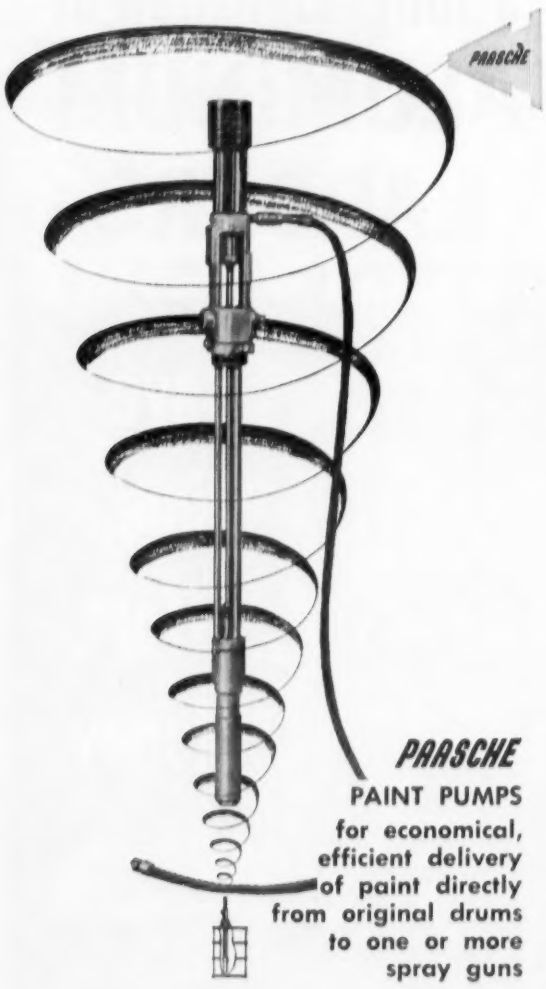
For more details circle NED-671 D7 on enclosed inquiry slip

SEMIAUTOMATIC HONE machines 1½-in. diameter work with stroke adjustable to 21 in.

Horizontal semiautomatic model 150 Microhoning machine is a compact, standardized unit equipped with a stationary bridge to accommodate work fixtures and optional equipment. It has automatic stroking and a spindle mounted on a hydraulically actuated reciprocating carriage. Adjusting head is manually operated. Machine has a 12-in. stroke and a 1½-in. work diameter capacity. It can be partially or fully automated by addition of standard "package units" produced by its manufacturer.

Standard features include hydraulic initial tool expansion and collapse, variable speed drive for spindle rotation and provision for gravity coolant drainage. Optional equipment includes Microdial automatic hydraulic feed and stone wear compensation; automatic stone wear indicator and controls; automatic coolant separator, pump and tank; and automatic sizing control to suit application. Made by **Micromatic Hone Corp.**, 8102 Schoolcraft Ave., Detroit 38, Mich.

For more details circle NED-669 D7 on enclosed inquiry slip



PAASCHE PAINT PUMPS for economical, efficient delivery of paint directly from original drums to one or more spray guns

Save labor, time and materials plus lower paint handling equipment cost!
No time lost in transferring materials.
No messy floors or refill containers.
2 to 1 ratio pump handles all types of paint.
Automatically adjusts for variation in drum height.
Completely empties the drum.
Ruggedly built yet easily handled — weighs only 20 pounds!
Consult your classified directory for nearest Paasche representative or write for complete information.

PAASCHE AIRBRUSH COMPANY
A DIVISION OF CLINE ELECTRIC MANUFACTURING COMPANY
1909 WEST DIVERSEY PARKWAY • CHICAGO 14

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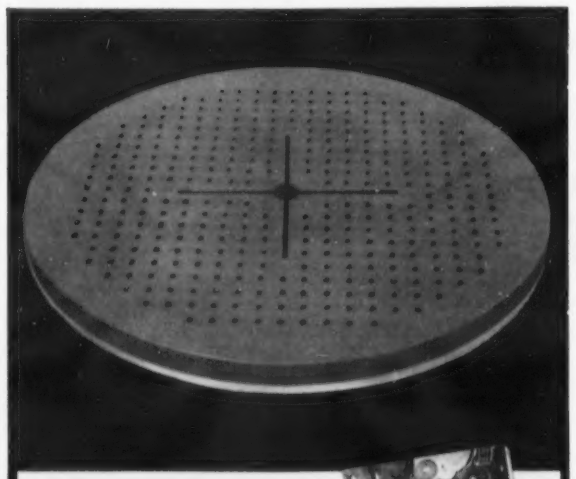
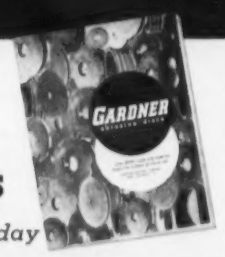


new 20-page selector guide for abrasive discs



...send for your copy today

GARDNER abrasive discs MACHINE COMPANY
460 Gardner St.
Beloit, Wisconsin

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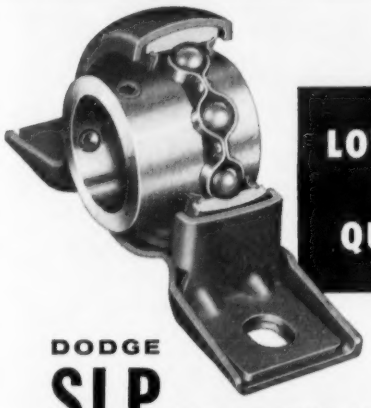

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DODGE SLP BALL BEARING PILLOW BLOCK

A serviceable bearing for small shafts and general light machinery applications. Formed steel outer housing combines pleasing appearance with *strength* for all moderate service. Compact, fully self-aligning, effectively sealed to exclude dust and dirt, factory lubricated for life — and sealed both on and off the shaft. Flange units also. From Distributors' stocks in shaft sizes from 3/4" to 1-3/16". Write for Bulletin A-645A.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE of Mishawaka, Ind.

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DIE CUSHIONS FOR ALL DEEP DRAWING OPERATIONS

Furnished complete ready to install. Operates perfectly on all shop air lines.

ACCURATE ADJUSTABLE WORKING PRESSURES ASSURED
QUICK SETUP SAVES TIME
PRESS BED OR BOLSTER PLATE MOUNTING
17 MODELS AVAILABLE FROM STOCK, SIZES 3" THRU 16"

DIE CUSHIONS AVAILABLE FOR ANY POWER PRESS
ENGINEERING SERVICE AT YOUR DISPOSAL
ALL DIE CUSHIONS INSTALLED ON TRIAL BASIS

Full Universal Pneumatic Die Cushion

DAYTON ROGERS Manufacturing Company
MINNEAPOLIS 7E, MINNESOTA

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CHROMALOX *Electric* Air Duct Heaters

For heating air or gases under forced circulation, Chromalox Electric Air Duct Heaters are the efficient, economical answer.

For drying, curing, baking. For heat-treating and annealing ovens. Space heating or adapting air-conditioning systems for central heating.

Heaters can be installed quickly and easily in round or rectangular ducts and accurately controlled either manually or by automatic thermostat.

115, 208, 230 and 460 volts. 91 *standard stock* types, sizes and ratings are ready for immediate delivery.

C-2109

FREE BULLETIN — Call your Chromalox Representative or write for Bulletin F-1559

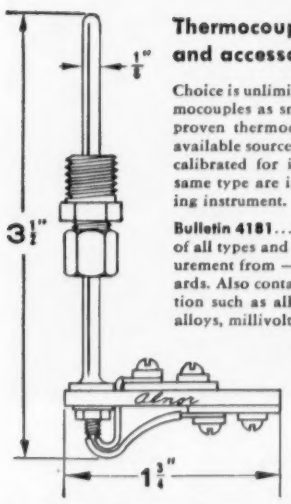
Edwin L. Wiegand Company
7509 Thomas Boulevard, Pittsburgh 8, Pa.

See other ad on page 4

For more details circle NED-674 D7 on enclosed inquiry slip

Alnor®

pyrometer supplies



Thermocouples, alloy wire, and accessories

Choice is unlimited at Alnor, where you'll find thermocouples as small as 1/8" O.D. and more unique, proven thermocouple designs than at any other available source. Each thermocouple is individually calibrated for its specific application—all of the same type are interchangeable without recalibrating instrument.

Bulletin 4181...lists thermocouples and accessories of all types and alloys for every temperature measurement from —100° F. to 3000° F., to ISA Standards. Also contains complete engineering information such as alloy curves, uses and limitations of alloys, millivolt relationship tables, etc.

Bulletin 4257...lists *surface* temperature thermocouples and accessories available from Alnor.

Circle bulletin number you want, attach this ad to your letterhead and mail to: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Model 3480 small pipeline thermocouple. Precision built to Alnor performance standards. Unit price: $9.00.

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

Alnor

For more details circle NED-675 D7 on enclosed inquiry slip

Take Advantage of All the Advantages...

FERGUSON CONVEYORS

offer!

You eliminate manual handling between production operations...save space by keeping material off the floor ...coordinate men, material and machines...increase efficiency with less manual effort when you use FERGUSON gravity and power conveyors. That has been the experience of companies everywhere in many different industries using these conveyors.

Whether you're building a new plant, renovating your present plant or just want more efficient materials handling, include FERGUSON CONVEYORS in your plans. You'll like the way they cut the cost of doing business.

Write, wire or call for additional details.

HARRY J. Ferguson COMPANY

129 WEST AVENUE • JENKINTOWN, PA. • TUrner 4-4401

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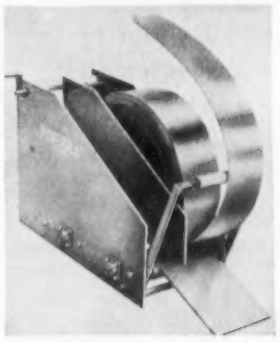
MOTOR SPEED CONTROL for 1/50 to 1/4-hp dc motors

Accurate acceleration and speed control of shunt wound direct current motors ranging from 1/50 to 1/4-hp is assured with this CX25 electronic controller. By means of acceleration control, motor can be started at any speed from 1 to 2200 rpm either immediately or gradually over 1/2-minute interval. Fine speed adjustment works in conjunction with coarse speed control. Thyratron tube circuit automatically increases voltage to compensate for additional loading of the motor armature. Made by **Gerald K. Heller Co.**, Dept. A, 1819 Industrial Rd., Las Vegas, Nev.

For more details circle NED-677 D7 on enclosed inquiry slip

COIL CRADLE handles 48-in. diameter coils



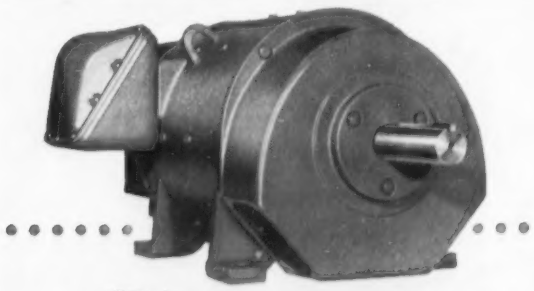
Easily moved from one press to another, the improved Powerolf coil cradle can handle stock up to 24 in. wide by 48 in. diameter, weighing up to 3000 lb. It can be loaded by one man who rolls the coil onto it. Cradle feeds the press automatically and requires no space for a slack loop (which is stored above it). Made by **Medelton Co.**, Dept. N, 335 E. 142nd St., New York 54, N. Y.

For more details circle NED-678 D7 on enclosed inquiry slip

MINIATURE CLUTCH designed for noncontinuous rotation

Life of instruments and transmission equipment is prolonged in industrial applications where continuous rotation is not essential by equipping them with a Reliance miniature clutch. It makes possible engagement or disengagement of any or all parts of drive installations, such as tachometer or counter shafts. Once readings or operations are completed, a slight turn of the control disengages the clutch until further readings are required. Several models are available, each equipped with end fittings designed for insertion at any point in power transmission installations. Made by **Barbour-Stockwell Co.**, Dept. B, 205 Broadway, Cambridge, Mass.

For more details circle NED-679 D7 on enclosed inquiry slip



THE NEW RELIANCE SUPER 'T'

D-C. MOTOR

WITH DYNAMIC RESPONSE

The most revolutionary new motor development in 40 years!

- Higher commutating ability
- Lower mechanical inertia
- Lower electrical inertia
- Moves heavy loads quickly

Write or call for further details.

RELIANCE Super LINE

C-1544-A

RELIANCE R ELECTRIC AND ENGINEERING COMPANY

DEPT. 244A, CLEVELAND 17, OHIO • CANADIAN DIVISION: WELLAND, ONTARIO

Sales Offices and Distributors in Principal Cities

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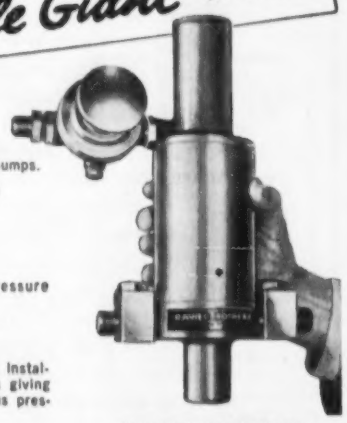
8 reasons why you should switch to—

AIR-HYDRO-PUMP Jr.
"The Little Giant"

FOR PRESSURE TESTING 10,000 PSI (with air-100 psi)



1. Operates more quickly and efficiently than hand pumps.
2. A turn of the wrist gives instant pressure.
3. Saves man hours.
4. Eliminates fatigue.
5. Maintains constant pressure without air consumption.
6. Ideal for testing valves and fittings.
7. Economical for multiple installation at test points, thus giving wide range of simultaneous pressures.
8. Ideal as source of hydraulic power for operating small presses, jacks, rams, clamping devices and other hydraulic mechanisms.

SIX JUNIOR MODELS
100 PSI TO 10,000 PSI
$185.00
F.O.B., N.Y.C.

Also Complete Range of 35 Standard Models, Single or Double Acting

DAVIES BROS. GLADSTONE, NEW JERSEY

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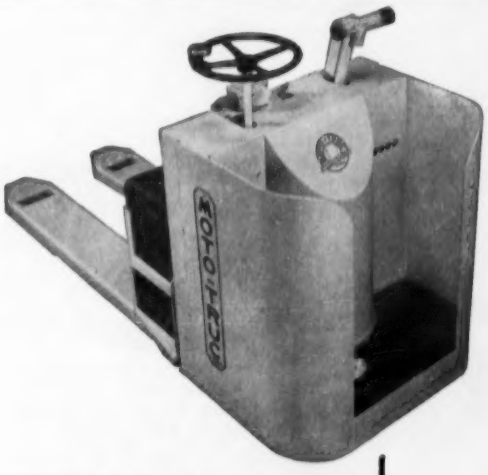

STUCK FOR A TRUCK?

. . . let this "walkie-size" rider truck do it!

If you are stuck with one of those in-between jobs that demands a *small rider* type truck for pallet handling, MOTO-TRUC's "Ride-A-Man" pallet trucks are the answer.

"Ride-A-Man" trucks give you all the convenience, safety and ruggedness of much larger rider trucks without sacrificing the compactness and maneuverability of a walkie.

Only slightly larger than a walkie, "Ride-A-Man" trucks provide a roomy operator compartment fully equipped with effortless wheel steering, foot brake and dead-man control. Electric power assures low operating and maintenance costs.

Write for Bulletin 56R. Get full details on the complete line of "Ride-A-Man" trucks.

EXCLUSIVE "FREE FLOATING" ACTION

The sketches show how Moto-Truc's exclusive "free floating" action prevents pitch and roll caused by uneven floors and high speed turns. The wide spread caster wheels stabilize the truck. The operator's compartment floats up and down to keep both casters and drive wheel in constant contact with the floor. The drive wheel carries the load while the casters stabilize the truck.

Largest Exclusive Manufacturers of "Walkies" and Ride-A-Man Trucks

The MOTO-TRUC Co.

1961 E. 59th St. • Cleveland 3, Ohio

Pallet . . . Platform . . . Hi-Lift Trucks

Representatives in Principal Cities

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WHO?

Who makes the *best* Carbon Dioxide Fire Extinguishers? Kidde does, in 2½, 5, 10, 15 and 20 lb. trigger-grip and squeeze-valve models. Both types snuff fire fast, leave no mess to clean up. Write for Kidde's P-8 Catalog.

Who has the *best* fire extinguisher servicing? Your Kidde recharging service station. Look in the Yellow Pages, or write Kidde for name and address of your nearest sales or service station.

Kidde

Walter Kidde & Company, Inc.
424 Main St., Belleville 9, N. J.

For more details circle NED-687 D7 on enclosed inquiry slip

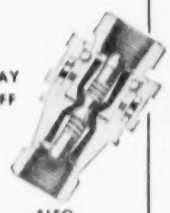
GREASE STEAM HYDRAULIC FLUIDS WATER GASOLINE L.P. GAS REFRIGERANTS COOLANTS OXYGEN AIR

WHAT'S *Your* COUPLING APPLICATION?

ACETYLENE OIL VACUUM

HANSEN
QUICK-CONNECTIVE COUPLINGS

ONE-WAY SHUT-OFF



TWO-WAY SHUT-OFF

ALSO STRAIGHT-THROUGH COUPLINGS

SPECIFICALLY ENGINEERED ...NEVER MERELY ADAPTED ...FOR EACH PARTICULAR TYPE OF APPLICATION

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● Here's an always ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Quick-Connective Couplings. Write for your copy.

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4031 WEST 150th STREET • CLEVELAND 11, OHIO

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Colonial Develops SPECIAL RUBBERS

FOR *Tough* INDUSTRIAL APPLICATIONS

CONSULT OUR ENGINEERS ON YOUR RUBBER PARTS PROBLEMS AT NO OBLIGATION

The Colonial Rubber Company has the experience, the technical staff, and the facilities to meet your *special* requirements in industrial rubber parts. Our service is fast, efficient and precise for three important reasons:

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Send for Free Illustrated Booklet
Contains complete details on Colonial's custom rubber compounding and molding . . . shows *why* manufacturers can use this service to advantage.

2300

Colonial Rubber Co.
Ravenna, Ohio

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PORTABLE SURVEY METER registers 50,000 counts per minute

Model GS-3W portable survey meter has the same basic circuitry as company's GS-3 CD Geiger counter. It employs a halogen-quenched thin end window GM tube as a detector and is available either as a beta counter with a 3 to 4-milligram-per-square-centimeter end window, or as an alpha-beta-soft x-ray counter with 1.4 to 2-milligram-per-square-centimeter end window. Maximum counting rate is 50,000 counts per minute or 20 milliroentgen per hour. A radioactive sample is built-in for calibration. Probe assembly which clamps onto carrying case may be extended 6 ft. Meter weighs only 4½ lb and will withstand a 3-ft drop onto concrete. Made by **Nuclear Measurements Corp.**, Dept. A, 2460 N. Arlington Ave., Indianapolis 18, Ind.

For more details circle NED-690 D7 on enclosed inquiry slip

SPARK EROSION MACHINE shapes even hardened metal to any desired contour electrically

Sparks produced by this Abaco MG-5 electronic erosion machine remove metal from hardened workpieces to develop any desired shape. A soft copper electrode discharges from 5 to 20,000 sparks per second, each one removing a small amount of material at the point of contact. Rectified pulsating direct current from the motor - generator is stored in a battery of capacitors and released as needed to the electrode which never touches the work. Machine will remove up to 0.05-cu in. per minute in refractory metal. Sensitive servo head controls the electrode position and compensates for metal removed. Automatic trip will shut off unattended machine when a part is finished.

Process is conducted in an oil bath. Motor-driven oil pan is raised or lowered in 6 sec to facilitate setup or inspection. Controls permit any desired finish. Maximum workpiece size is 14 x 28 x 12 in. Tolerances up to 0.0005-in. are obtainable. Top of illustration shows a die for a table fork that was produced in 22½ hours by this machine. Made by **Abaco Industries, Inc.**, 78-21 Queens Blvd., Elmhurst, L. I., N. Y.

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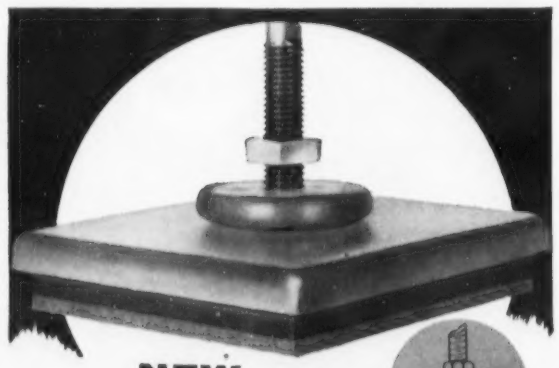

NEW LEVEL-RITE Machinery Mounting

The new Level-Rite combines the features of Unisorb with the advantages of a rugged, easy-to-use device for precise leveling of machines. Machines are completely "mobilized." One unit required for each machine leg, with load ratings to 7500 lbs. per unit.

Exclusive Screw-Post Design . . . Machine legs mounted on special leveling screw and plate assembly, which rests in all-steel base plate. Machine is quickly and easily leveled by simply rotating the square top of the leveling screw, then securing lock nut. Machines stay level.

No bolts, lag screws or cement . . . Level-Rite eliminates all need for anchor bolts or screws. Designed so compression provides positive hold, no "walking" or creeping under the toughest side loads.

Superior Unisorb Vibration Dampener . . . Industry's most efficient isolator reduces transmitted vibration up to 85%. Unisorb will not deteriorate, is resilient, and is impervious to cutting fluids and cleaning compounds.

Send for New Data Sheet and Prices, today.

The name to remember is . . . **UNISORB**

the **FELTERS** co.
224 SOUTH ST., BOSTON 11, MASS.
Manufacturers of Felt and Felt Products

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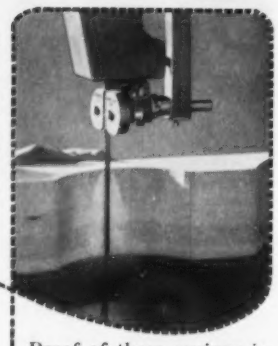
25% to 40% faster cutting

Hundreds of industrial plants report actual increased sawing production of 25% to 40% and a higher quality work with use of Foley precision saw filing equipment. They get longer saw life, less breakage and lower maintenance costs. One firm reports an annual saving of $350.00.



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Proof of these savings is in a helpful 56 page book we have for you. This free book is based on many years' use of Foley Saw Filers in thousands of plants. It contains pictures and detailed data on how these firms save money—how you can benefit. Request Manual No. 100; no obligation.

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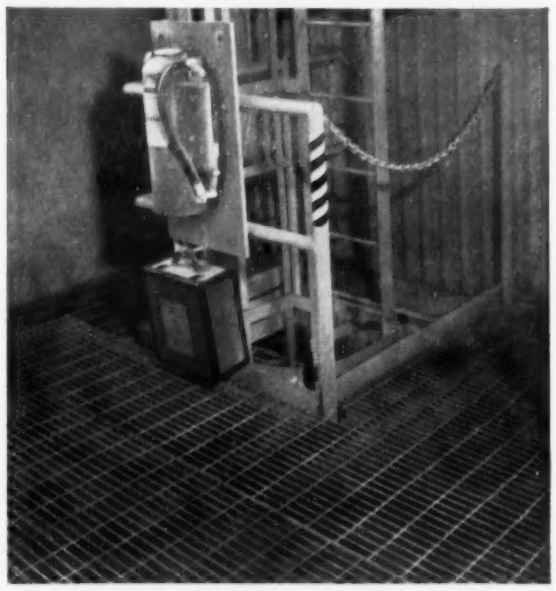

A dangerous place to work...

that's why you see so many symbols of safety

Here's a plant that's out to keep "employee downtime" at a minimum. Extinguishers and gas masks provide protection against fire and toxic fumes. Guard rails and chains surround permanent hazards. Raised steel strips around floor openings prevent objects rolling or being kicked to the floor below. Clean windows and bright lighting provide good visibility. It's only natural that a company so interested in safety should select Blaw-Knox Steel Grating for "underfoot" safety.

Each section of Blaw-Knox Electroforged® Steel Grating is of rigid, one-piece construction, with a choice of cross bar and bearing bar surface designs and spacings that afford maximum safety under all working conditions. Indoors or out, you get safe, quiet, long lasting and self-cleaning flooring with maximum passage of light and air.

Blaw-Knox Electroforged Steel Grating is fabricated in a wide selection of materials to exact customer specifications. Fits easily and neatly into even the most congested areas.

BLAW-KNOX

Send for new Blaw-Knox Grating Catalog 2527. See new ideas in flooring, walkways, stair treads, platforms, shelving. Write today.

BLAW-KNOX COMPANY
Blaw-Knox Equipment Division, Dept. F, Pittsburgh 38, Pa.

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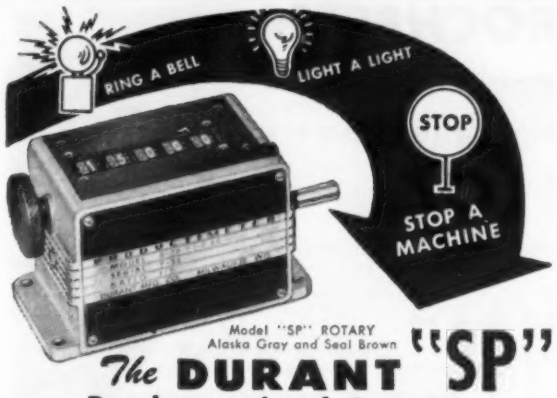

Model "SP" ROTARY
Alaska Gray and Seal Brown

The DURANT "SP" Predetermined Counter

(CLOSES SWITCH AT END OF PRE-SET COUNT)

PREVENTS COSTLY OVERRUNS

This SMALL, COMPACT Productimeter has hundreds of applications in all phases of industrial production. Make exact production runs to any predetermined count you set.

Extremely rugged, fast and accurate the "SP" Productimeter will eliminate wasteful over- or under-runs. It will turn on a light, ring a bell or stop the machine. Available in ROTARY or STROKE models.

Send for Catalog No. 45

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22 Thurbers Ave. Providence 5, R. I.
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PRODUCTIMETERS SINCE 1879 *Count Everything*

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Swartwout's *New*

Contouramic Airmover® Roof Ventilator

(Patent Pending)

Higher Capacity **gravity ventilation now achieved with less bulk and weight ... *and at lower cost!***

Here's a quick look at this new ventilator — ten of its many vital features:

1. Higher Capacity
2. Lower Cost
3. Easier to Install — and at Less Cost
4. Less Weight
5. Lower—only 21½" high
6. Less Wind Resistance
7. Automatic Opening in case of fire
8. Absolutely Weatherproof
9. Nylon Bearings
10. Lower Maintenance

Write or wire for Form 312C today.

The Swartwout Company, 18511 Euclid Ave., Cleveland 12, Ohio

Swartwout ROOF VENTILATORS AND VENTILATING LOUVERS
AUTRONIC PROCESS CONTROL EQUIPMENT

▲ For more details circle NED-696 D7 on enclosed inquiry slip ▲

THE HydroLectric LIFT TRUCK

pays for itself . . . with the savings it makes

The ease of operation, speed, safety, power and economy of Hydrolectrics, users report, make it possible for them to pay for themselves *five* to *twelve* times per year.

The exclusive Hydrolectric modern features give you top performance day in and day out the year around, which today's material handling requires, at the lowest cost.

- 2 Drive Wheels instead of one
- 2 Braking Systems available instead of one
- 4 Wheel Stability instead of three
- Alloy Gear Transmission instead of chains
- 100% more Steering Ease —Greater Maneuverability
- 50% less Maintenance —Easy Accessibility
- Finger-Tip Control —Greater Safety

Write for complete information today!

STUEBING Designed • Engineered • Built

LIFT TRUCKS, INC. / CINCINNATI 14, OHIO

THERE IS A TRUCK FOR EVERY PURPOSE TO HANDLE ANY KIND OF MATERIAL.

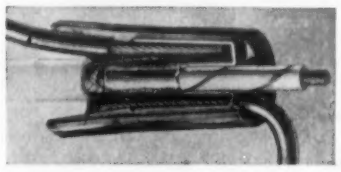
▲ For more details circle NED-697 D7 on enclosed inquiry slip ▲

EPOXY ENCASING SHELLS for encapsulating electronic parts

Line of molded epoxy shells is now available for encapsulating resistors, coils, capacitors and other electronic components. Component is inserted directly into the N-Case shell and epoxy casting compound is poured in after it. Part is thus made resistant to humidity, temperature variations and corrosive influences. Made by **Epoxy Products, Inc.**, 137 Coit St., Irvington, N. J.

▲ For more details circle NED-698 D7 on enclosed inquiry slip ▲

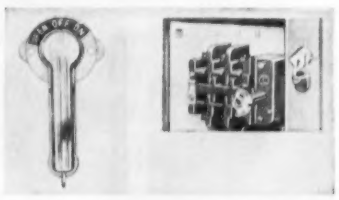
ONE-PIECE TAP CONNECTOR for shielded or coaxial cable



Fully insulated Uniring one-piece tap connector for shielded or coaxial cable affords savings in installation time. It is composed of one-piece combined inner and outer ring and nylon insulation. Inner ring slides under shielded braid as the tap wire is held between the braid and the outer ring. Inner ring remains unaffected by a single crimp with a Hytool, insuring protection of cable. Single or multiple taps, from either front or back of connector, can be accommodated. Nylon insulation is color-coded for size identification. Made by **Burndy Corp.**, Omaton Div., Norwalk 12, Conn.

▲ For more details circle NED-699 D7 on enclosed inquiry slip ▲

SAFETY DOOR SWITCH disconnects when panel is opened

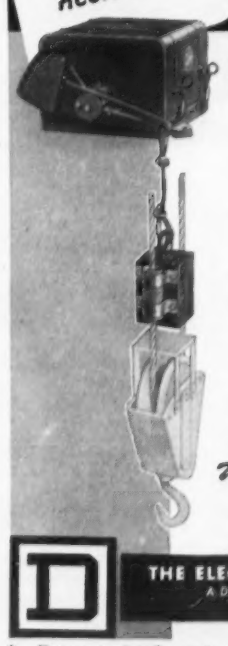


Visible contacts, self-locating handle and a line cover are features of improved type RAD door disconnect which promotes safety for personnel working on electrical control panels. Contacts are visible at all times when the door is open. Indicating line on the handle points to operation location (on, off or open), and locking ratchet prevents accidental opening of door in other than "open" position. Cover has holes through which test prods can be inserted to determine if running line is dead. Available in 30 and 60-amp 600 v ac models, the disconnect meets JIC standards. Adjustable shaft is available in three sizes, each adaptable within a 3½-in. range. Made by **Arrow-Hart & Hegeman Electric Co.**, 101 Hawthorn St., Hartford 6, Conn.

▲ For more details circle NED-700 D7 on enclosed inquiry slip ▲

Prevent OVERHOISTING ACCIDENTS

EC&M LIMIT STOPS



for AC and DC Cranes

- Crane operators work better when fear of overhoisting accidents is eliminated. The EC&M Limit Stop disconnects motor from the line for a quick stop.

On DC cranes with high hoisting speeds, dynamic braking reduces drift and aids in bringing the hook block to rest. Because EC&M Limit Stops are operated directly by the hook block, stretching of the hoisting cable does not affect tripping point.

EC&M Limit Stops are easily installed on both new and existing AC and DC cranes.

Write for Bulletin 1032
It gives the complete story of EC&M's Youngstown Safety Limit Stops

THE ELECTRIC CONTROLLER & MFG. CO.
A DIVISION OF THE SQUARE D COMPANY
CLEVELAND 28 • OHIO

8046

▲ For more details circle NED-701 D7 on enclosed inquiry slip ▲

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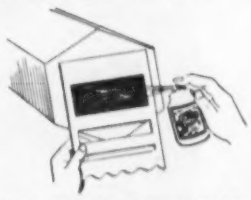
another ZIP SPRAY... ZIP SPEED LACQUER



NOTE MASTER PATTERN CARD

Color code your materials quickly . . . easily . . . efficiently . . . with Zip Speed Lacquer. This quick drying spray, available in 12 colors, identifies all shapes and sizes, all materials including metals, woods, plastics, oily stock. Color code as fast as stock comes in—in any type of weather. Master pattern cards for masking in each carton. Eliminate sloppy, wasteful paints and brushes. Spray it on next time: color code with Zip Speed Lacquer!

WRITE FOR DETAILS

ALSO:

ZIP RUST STOPPER #1 Protects metal parts for storage.

ZIP RUST STOPPER #2 Protects parts left in machinery for further processing; removes fingerprints.

ZIP BELT LUBE Prolongs belt life; promotes safety and speed.

ZIP PATTERN LAYOUT FLUID Shows up scribed patterns strongly.

ZIP STENCIL INK Quick drying—excellent on cartons and metals.

ZIP MOLD RELEASE Releases all parts of injection plastic moldings quickly and completely.

ZACO LABORATORIES
1360 W. 9th St. • Cleveland 13, Ohio

▲ For more details circle NED-702 D7 on enclosed inquiry slip ▲

Pyles SEMCO

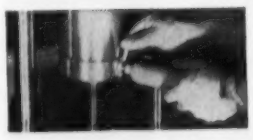
for Blending and Applying CATALYST and ADDITIVE MATERIALS

Pyles-SEMCO SEALANT GUN *and* **PRESSURE MIXER-FILLER**

Capacity: 2½ oz. 6 oz. 12 oz.

Unit measures 18" x 16" x 66" high

Weight 325 lbs.



- The Pyles-Semco Sealant Gun is a lightweight, air-operated hand gun for applying additive sealers and potting compounds. The gun is used with disposable polyethylene cartridges from 2½ oz. to 12 oz. capacity with a wide range of nozzles to fit the application.

- Designed for blending catalyst and additive materials in an air free container so that the mix delivered will be air free. Up to a quart of material may be mixed in a few minutes and delivered, while still under pressure, into a polyethylene cartridge for use with the Sealant Gun.

Automatic Continuous

BLENDOMETER

metering and mixing polyurethenes, epoxies, polyesters

Multi-Purpose Pumps
•
Metering and Measuring Devices
•
Hydraulic Hose Machines & Couplings
•
Conveyor Lubricators
•
"Tip-Seal" Flow Guns & Nozzles

- The Pyles Blendometer is a production unit suitable for continuous measuring and mixing of two and three part chemical systems. Chemicals, which will gravity flow, can be metered to a mixing head through variable control metering units which can be adjusted with very high accuracy. Unit measures 36" x 21" x 29½" high. Weight 500 lbs.

PYLES INDUSTRIES, INC.
8926 SECOND AVENUE • DETROIT 7, MICHIGAN

▲ For more details circle NED-703 D7 on enclosed inquiry slip ▲

IF YOU WORK WITH PLATE YOU NEED A STEELWELD PRESS

If you work with metal in any thickness from 12 gauge to one inch most likely a Steelweld Press would prove helpful and profitable to you.

Steelwelds are versatile tools that do bending, forming, drawing, punching, etc. quickly with simple, easily set dies.

Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
6638 East 281st St. Wickliffe, Ohio

STEELWELD PRESSES

For more details circle **NED-704 D7** on enclosed inquiry slip

Sensitive hand and geared power feed. 1 hp. motor, 1800 or 1500 rpm. 1½" drilling capacity in cast iron.

Appearance, design and *price* will tell you here is an outstanding drill buy. Its performance will *prove* it!

This new Cincinnati gives you eight easy-to-change spindle speeds; accurately ground, alloy steel No. 4 Morse taper spindle; 10½" of spindle travel; big diameter column for maximum stability; complete belt and gear guarding for extra safety.

Shipped complete with motor and built-in controls; you simply connect shop power leads and you're ready to drill. Send for Catalog D-142, or see your CL&T dealer. Cincinnati Lathe and Tool Co., 3207 Disney St., Cincinnati 9, Ohio.

Builders of Engine, Toolroom and Fixed Gap Bed Lathes and Complete Line of Drilling Machines

center on cincinnati lathes and drills

For more details circle **NED-705 D7** on enclosed inquiry slip

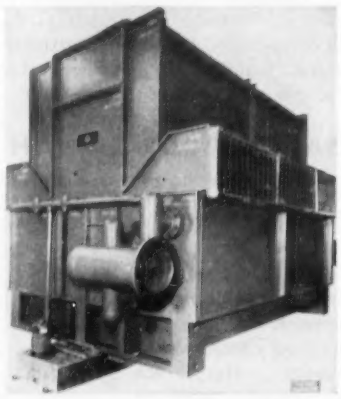
WIRE CUTTER & STRIPPER handles solid or stranded wire of from 32 to 12-gage

This automatic wire cutter and stripper will cut single conductor, solid or stranded wire of from 32 to 12-gage in lengths from 1 to 300 in. and remove the insulation from one or both ends without scraping the strands. Strip lengths can be varied from ⅛ to 1 in. Wire travels through machine at up to 150 fpm, with split-second stops for cutting and stripping. Production rates at top speed range from 350 300-in. pieces per hour to more than 8000 1-in. pieces per hour.

Feed rolls are motor driven and pneumatically controlled. Pneumatic power is also used to operate cutting and stripping mechanism, and eject finished wires. Machine is semiportable, can cut and strip Teflon, glass fiber and other tough insulations and can be synchronized with a marking device or an induction heater for reflowing tin on stranded wire before cutting and stripping. Made by **Eubanks Engineering Co.**, 260 N. Allen Ave., Pasadena, Calif.

For more details circle **NED-706 D7** on enclosed inquiry slip

AFTER COOLER takes moisture from compressed air



Self-contained method of cooling and removing moisture from compressed air is provided by this Aero after cooler. It also will cool water in a closed system for intercooler and compressor jackets. Compressed air is effectively cooled to a point close to the wet bulb air temperature. Jacket water is cooled to the optimum temperature, controlled by modulating the intake of outdoor air with dampers which automatically adjust the capacity to the cooling load and to the outdoor wet bulb temperature. Installation can be indoors or outdoors. Four sizes have capacities up to 23,000 cfm of free air, cooled from 275° F to 85° F at 75° F wet bulb atmospheric air. In cold weather, dampers close to prevent freezing. If further protection is required, steam or electric heat is used in the spray water tank. Made by **Niagara Blower Co.**, Dept. E.D., 405 Lexington Ave., New York 17, N. Y.

For more details circle **NED-707 D7** on enclosed inquiry slip

ROCHESTER

can give you the right thermometer for the job . . .

BIMETAL THERMOMETERS are available in both angle-form and straight-form types. With straight-form models, stem may be located in any position around entire circumference of head.

ALL RMC thermometers are available with various stem lengths from 2½"—up to 70" on some models. All are hermetically sealed, silicone dampened, and have external recalibration feature.

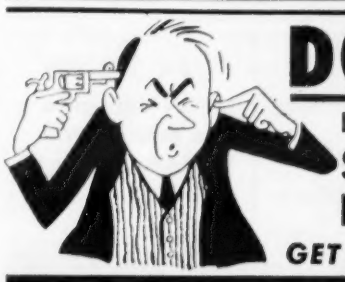
MANY different types are available, with dial sizes ranging from 1" to 5". Scale Ranges from —150° F to +1000° F. All RMC bimetallic thermometers are guaranteed accurate to 1% of scale range.

REMOTE INDICATING Vapor pressure temperature gauges are available in production quantities—3½" dial—wide temperature ranges and tube lengths available.

RMC *"You Can Rely On Rochester"*

ROCHESTER MANUFACTURING CO.
114 ROCKWOOD STREET — ROCHESTER 10, N. Y.

For more details circle **NED-709 D7** on enclosed inquiry slip



DON'T LET YOUR STRIPPING PROBLEMS GET YOU DOWN!

EPOXYSTRIP

Is a LIFE SAVER—TIME SAVER—MONEY SAVER

A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

- **EPOXYSTRIP WILL NOT HARM SOFT METALS**
- **ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST**
- **NO SCRUBBING OR MANUAL ASSISTANCE**
- **RECOMMENDED BY LEADING FINISH MANUFACTURERS**

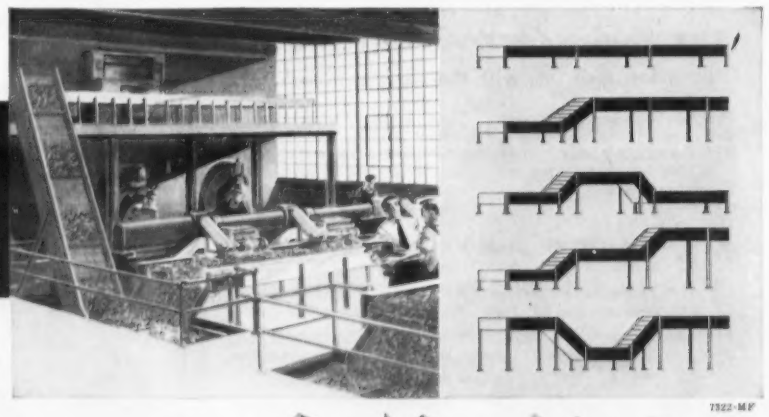
SEND FOR FREE BROCHURE

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

BECK EQUIPMENT COMPANY
3352 WEST 137th STREET CLEVELAND 11, OHIO

For more details circle **NED-710 D7** on enclosed inquiry slip

MAY-FRAN CONVEYOR STANDARDIZATION



7322-MF

SAVES YOU MONEY... NOW... AND IN THE FUTURE!

Here is a conveyor program designed for the unusual. NOW . . . you can have a customized conveyor today to meet production needs . . . and with modification, that same conveyor will meet the needs of tomorrow.

The May-Fran conveyor standardization program provides the standard components that can be assembled to form a special or standard conveyor. These same components can be re-arranged at any time to solve production problems in the future.

In addition, standard components mass produced mean conveyor economy right from the beginning.

Here is a conveyor program of standardization program that saves you money now . . . and in the future!

Write today for your copy of Bulletin MF-200

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Rd., Cleveland 12, Ohio

For more details circle **NED-708 D7** on enclosed inquiry slip

How TOOLSET "PEG BOARD" SYSTEM Speeds up Punching and Notching to Patterns

Get Latest Facts on Cutting your Tool-up Time, Setup Time, Open Press Time, Tool Costs and Capital Investment

NOT "JUST A LINE OF PUNCHES", the latest TOOLSET "PEG BOARD" SYSTEM brings you revolutionary short cuts and economies on short and long production hole punching and notching. Self-locating "Peg Board" punches and pattern plates cut your non-productive tooling costs to near-zero.

Time savings add up to days and weeks on original, repeat, short, long and custom runs with THE TOOLSET SYSTEM,—whether you use punch presses or press brakes, with or without T slotted plates.

Write for helpful information and name of your local TOOLSET application man.

Cross section shows exclusive TOOLSET 3-point punch guiding for accurate, burr-free holes, with longer punch and die life.

Essential for Super Alloys

TOOLSET, Inc. 1413 Military Road BUFFALO 17, N. Y.

▲ For more details circle NED-711 D7 on enclosed inquiry slip ▲

well-known aircraft manufacturer reports:

"HEATING TIME DECREASED 50% HEATER LIFE INCREASED 75%! with WATLOW'S FIREROD CARTRIDGE HEATING UNIT

"By using the firerod heater, the heating time was decreased by 50 per cent and the heater life was increased by at least 75 per cent with respect to the cartridge heater we were previously using".

"The decrease in heat up time required because of the concentrated heat of the Firerod has made it possible for us to remove the bolt from the crankshaft, a feat which was next to impossible before, since the bolt can be expanded away from the crankshaft before the heat is transferred to the crankshaft".

■ **New Design Offers AS MUCH HEAT IN 1/5th THE SPACE!**
■ **Units from ⅞" to 12" long; ⅜" and ½" dia.**

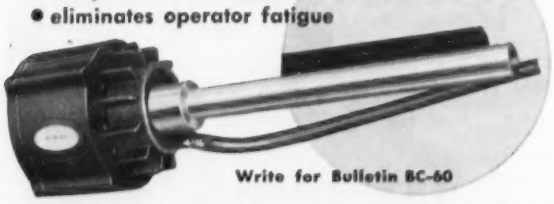
WRITE for free illustrated Bulletin. Full of convincing facts and figures.

WATLOW Since 1922—Designers and Manufacturers of Electric Heating Units
ELECTRIC MFG. CO.
1374 FERGUSON AVE.
SAINT LOUIS 14, MO.

▲ For more details circle NED-712 D7 on enclosed inquiry slip ▲

Bellows Air-Powered COLLET CONTROLLER

- holds and releases bar stock without stopping the machine
- eliminates stock slippage
- compensates for variations in stock size
- eliminates operator fatigue



Write for Bulletin BC-60

Bellows Model BCC-60 Collet Controller provides low-cost automatic stock-holding for hollow-spindle lathes and other rotating spindle machines. Mounts on most machines in a matter of minutes — can be controlled manually or interlocked with other equipment for automatic operation. Holding pressure 25 times applied air pressure.

ADDRESS DEPT. NED 457

The Bellows Co.
AKRON, OHIO

▲ For more details circle NED-713 D7 on enclosed inquiry slip ▲

HAMMER BITS
carbide tipped for impact drilling

Sizes from 3/16 to 1½ in. diameter are available in tungsten carbide tipped hammer bits for use in self-rotating air or electric hammers and standard hammers with turning chucks. Bits are of the solid chisel point type through ⅝-in. and core type with slot in the larger sizes. Latter type drills only the hole perimeter, thereby increasing the cutting capacity and drilling speed. Removable extension shanks and extra length bits are offered for 1⅛ to 1½-in. sizes. Made by **Tilden Tool Mfg. Co.**, Dept. NED, 209 Los Molinos, San Clemente, Calif.

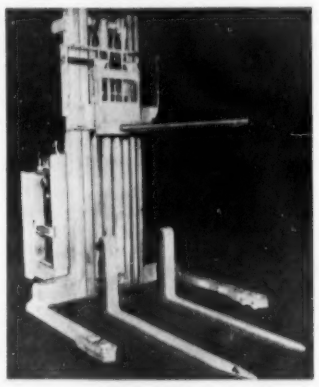
▲ For more details circle NED-714 D7 on enclosed inquiry slip ▲

MAIL CART
aluminum unit holds file folders

Compact, maneuverable and lightweight mail cart has rubber casters and is suited for deliveries in plant and office. It is made of aluminum and can use Pendaflex file folders to separate mail by departments. Up to 80-legal size folders can be accommodated. Removable bottom basket can be used for outgoing mail. Size is 26½ x 19 x 29½ in. Price is $45. Made by **Chesley Industries, Inc.**, Dept. H, 24777 Telegraph Rd., Detroit, Mich.

▲ For more details circle NED-715 D7 on enclosed inquiry slip ▲

DUAL PURPOSE TRUCK
handles palletized goods and rolls



Need for handling palletized goods and rolls of various materials is met by this double-purpose industrial truck. It is fitted with hook-on forks for palletized loads up to 4000 lb. Forks elevate to 152 in. Rolls are handled by replacing the forks with a 2¼-in. diameter ram which also hooks on the truck's elevating carriage. Straddle base eliminates need for counterweight and allows operation in narrow aisles. Made by **Raymond Corp.**, 41-148 Madison Ave., Greene, N. Y.

▲ For more details circle NED-716 D7 on enclosed inquiry slip ▲

▲ For more details circle NED-717 D7 on enclosed inquiry slip ▲

New high-vacuum pump creates *vapor-free* vacuum electronically

An electronic pump working without liquids of any kind, the unique new CEC Evapor-Ion pump guarantees a vacuum in the 10^{-4} to 10^{-9} mm Hg range uncontaminated by vapors.

It uses the gettering action of evaporated titanium to evacuate the active gases from a chamber. It ionizes the inert gases and buries them in the walls of the pump.

The Evapor-Ion pump shows great potential in electronics, nucleonics, metallurgy, and metallizing.

For information, write to the Rochester Division for Bulletin 6-140-Z2.

Consolidated Electrodynamics
Rochester Division, Rochester 3, N. Y.
formerly Consolidated Vacuum

NATIONWIDE COMPANY-OWNED SALES AND SERVICE OFFICES

▲ For more details circle NED-718 D7 on enclosed inquiry slip ▲

Your PROFITS are in the balance....

Choose DETECTO the scale with these 3 *Exclusives*

1. Exclusive all-steel construction and all-steel lever system assures longer, trouble-free scale life and less maintenance cost.

2. Unique outboard bearing design prevents platform tipping. This means that you get *completely* accurate weighing on any part of the scale.

3. DETECTO's tare and weigh beams extend the dial capacity 125%. This means that you get greater gross weighing with minimum dial graduations.

Fractional weighing errors may seem inconsequential, but they add up to a staggering annual loss. When materials mean money, you are wise to depend on DETECTO, the most dependable name in precision industrial scales for more than half a century. DETECTO makes scales for every industrial need, ranging from 1/100 oz. to 50 tons. Models for packaging, parcel post, printing, counting, over-under attachment, portable beam, etc. Write for free, no-obligation catalog.

SALES and SERVICE in all principal cities

Detecto Scales, Inc.
548 Park Avenue, Brooklyn 5, N. Y. Since 1900

Gentlemen:
Please send me catalog #651 describing DETECTO precision industrial scales. This, of course, obligates me in no way.

Name.....
COMPANY.....
City.....Zone.....State.....

▲ For more details circle NED-719 D7 on enclosed inquiry slip ▲

NOW! Adjustable Diameter and Open
THOMSON BALL BUSHINGS

The BALL Bearing for all your LINEAR MOTIONS

LOW FRICTION · ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE · LASTING ALIGNMENT

The various types cover a shaft diameter range of ¼" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings
... Sleeve Bearings of DuPont NYLON

For more details circle NED-720 D7 on enclosed inquiry slip

6000 PSI
wide range, high-flow regulator

maintains high degree of accuracy with regulated pressures from 0 to 5000 psi!

performance features:

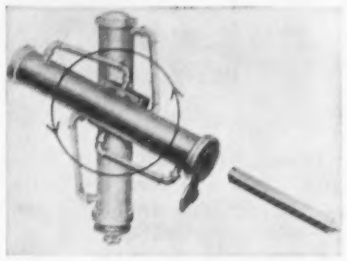
- Normal inlet pressure of 6000 psi!
- Wide adjustment range of 0 to 5000 psi with extreme sensitivity!
- Burst — 15,000 psi!
- Maximum required handle torque 30 inch lbs. due to planetary gear system in handle!
- Adaptable for use with air, nitrogen, helium and gaseous oxygen!
- ¼" tube straight thread gasket seal bosses per AND10050!
- Also available in AND10053 ¼" pipe thread!
- Internal valve and filter are removable without disturbing spring, diaphragm structure!
- Internal relief valve adjustable over entire outlet pressure range!
- Internal 5 micron filter!
- Bubble-tight shut-off!
- Adjustable mounting!

Please send me engineering data information on:
Part 110700—Air, nitrogen, helium. _____
Part 111700—Gaseous oxygen only. _____

APCO ACCESSORY PRODUCTS CORP.
Dept. N-4 616 W. Whittier Blvd.
Whittier, Calif. Phone: OXford 3-3747

For more details circle NED-721 D7 on enclosed inquiry slip

BAR MOLD
water cooling speeds bar removal and gives fine grain finish

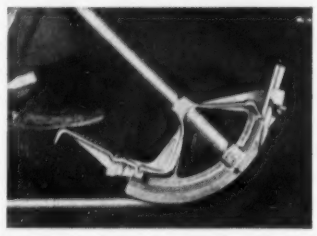


Wire bars are removed from Free Easy water cooled molds in 4 minutes after the molten metal is poured. Use of water cooling results in a fine grain finish, rapid bar removal, virtual elimination of seal blowouts and permits immediate swabbing of the liner. The cooling water channel runs the full length of the mold which can be used for casting of most nonferrous metals.

Mold has an outer water jacket and an inner tapered liner, shaped square or round to customer requirements. Model A (foreground) is designed for swivel mounting on a trunnion, and the bars drop out. Model B (background) for upright mounting requires that the bars be pulled. Both have a 4 x 4-in. mold liner that is 56¾ in. long. Water jacket has 8-in. diameter. Other sizes can be furnished. Made by **Kruger Machines, Inc.**, 547 Grove Ave., Woodbridge, N. J.

For more details circle NED-722 D7 on enclosed inquiry slip

ROLL-TYPE TUBE BENDER
foot treadle increases leverage



One-inch rigid conduit and 1¼-in. thin wall tubing are easily bent to 90-degree arcs with the Powr-Jack Step model SD-125 roll-type bender. A two-position foot treadle provides the leverage required to bend these sizes. With pedal in first position, conduit is bent through 60 degrees. Pedal is then shifted and locked in second position to complete a 90-degree arc. The "back pusher" groove allows truing or removing a few degrees of bend without shifting the tool off the pipe. Tool is its own measuring gage. Smaller models SD-50, SD-75 and SD-100 respectively handle ½, ¾ and 1-in. EMT and ½ and ¾-in. heavy wall tubing. Made by **Steelduct Co.**, Dept. B.B., Republic Bldg., Youngstown, O.

For more details circle NED-723 D7 on enclosed inquiry slip

Coil Stock Feeders

Special Engineering Service, Inc.—Ses-Matic press room equipment is subject of 12-page catalog which describes hydraulic punch press feeds, combination cradle and stock straighteners, loading ramps, power and plain stock straighteners, and air feeds. Technical data are included on steel coils and various other alloy stocks.

For more details circle NED-724 D7 on enclosed inquiry slip

POWER FAILURE?
CROSS THIS WORRY OFF YOUR LIST WITH... Katolight STANDBY POWER

During power shut-downs you can keep vital, electrically operated equipment functioning . . . help keep production underway with a Katolight Emergency Power Plant! Ruggedly built, Katolight Standby and Continuous Duty Units can be depended on to deliver far more than their rated capacity . . . at surprisingly low cost. Sizes to 400 KW, with engines of standard manufacture—diesel, gasoline, natural gas, propane, butane.

A Katolight Plant for every need — Industrial, Commercial, Institutional, Municipal.

KATOLIGHT PORTABLE POWER
. . . Speed work crews, cut costs. Plug-in convenience for electrical tools and equipment anywhere, anytime. 500 to 3500 watts, up.

NEW FOLDER! Write for details today.

KATOLIGHT CORPORATION BOX 891-76 MANKATO MINNESOTA

For more details circle NED-725 D7 on enclosed inquiry slip

Logan THE LATHES FOR SUSTAINED ACCURACY

You can continue to depend on Logans for precision results. On every type of lathe operation Logan sustained accuracy keeps performance at top efficiency. Ruggedly proportioned as well as precision built, Logan Lathes keep their accuracy after years of use in tool room, shop or production.

Screw Cutting and Turret Lathes In a Wide Range of Sizes 9", 10", 11", 12" and 14" swing, all with Logan advanced design features.

See your Logan dealer, or write for catalog information.

LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago 30, Illinois

For more details circle NED-726 D7 on enclosed inquiry slip

FOR MAKING SERVICE CONNECTIONS QUICKLY, EASILY!

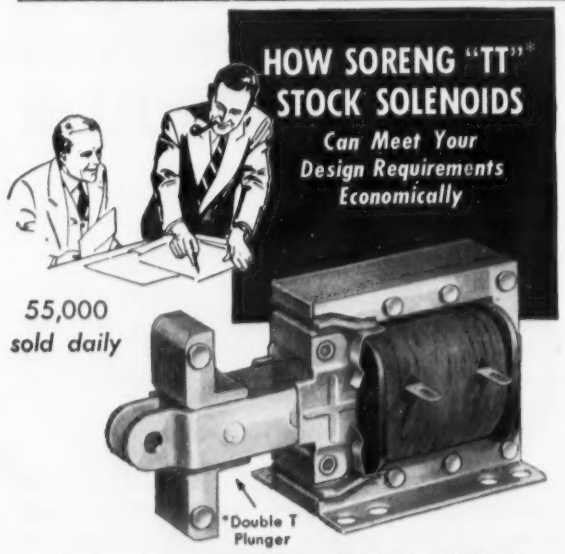
SKINNER-SEAL SERVICE SADDLE

For steel, cast iron and Transite pipe. Single massive bolt. Sizes: 1"-12" inclusive. Write for free catalog today!

M. B. SKINNER CO., SOUTH BEND 21, IND.

For more details circle NED-727 D7 on enclosed inquiry slip

HOW SORENG "TT"* STOCK SOLENOIDS
Can Meet Your Design Requirements Economically



All the exclusive custom features that have made Soreng a-c solenoids the most widely used in the world are embodied in the design of our stock line. One of our four basic types will probably fit your application . . . at the same time, you benefit from production run prices made possible through standardization.

For complete information write for Bulletin CF-124. It contains drawings, power curves, applications and other technical data.

CONTROLS COMPANY OF AMERICA
SORENG DIVISION
9577 Soreng Avenue • Schiller Park, Ill.

For more details circle NED-728 D7 on enclosed inquiry slip

keeps machine shop AIR PURE

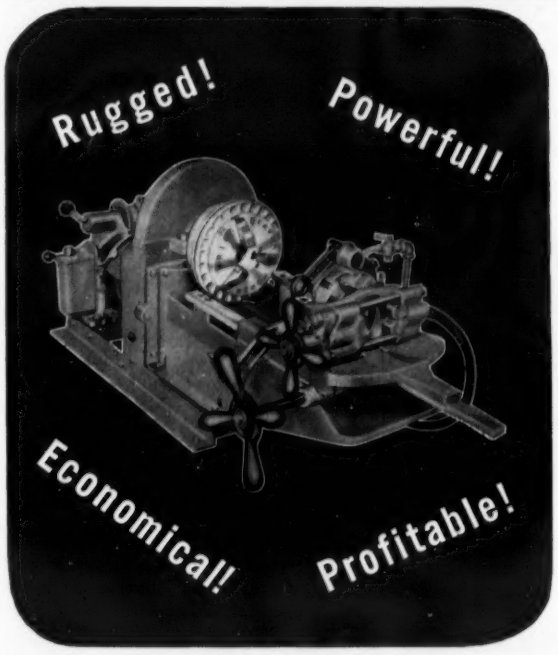
ELECTRO-STAYNEW MIST COLLECTOR

Electro-Staynew Mist Collector provides a self-contained ventilating system for individual machine tools. Removes gases, oil, smoke, grit, and chips from the air, and returns clean air to shop. Saves you hundreds of dollars in building maintenance alone. Also, reduces employee sickness.

Whatever your filtration problems, why not talk them over with a Dollinger Engineer . . . call or write for Bulletin 420 which fully describes the Mist Collector. Dollinger Corporation, 49 Centre Park, Rochester 3, N.Y.

DOLLINGER PROTECTOMASTER STAYNEW FILTERS

▲ For more details circle NED-729 D7 on enclosed inquiry slip ▲



New Beaver Model-A

The World's Fastest Portable Pipe Machine!

THREADS 2" PIPE IN 15 SECONDS!

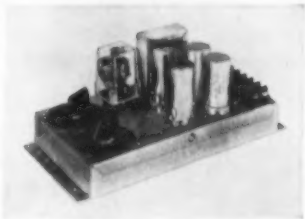
A rugged, heavy-duty, portable, low-upkeep pipe and bolt machine. Range—1/8" to 2" pipe; 1/4" to 2" bolts; up to 12" with drive shaft. High production with low maintenance cost. Beaver Power Grip Wrenchless Chuck standard equipment. All gears run in oil. Has rack and pinion feed with 12" of working space. Cone reamer mounted on swinging arm. Increased oil flow delivers two gallons of oil per minute for perfect threads and longer die life. Oil pump easily accessible for quick, thorough cleaning. Mono-type, duo-type, and Quadra-type die heads available. Your choice of wheel or automatic knife cutoff. Built-in outboard pipe support instantly indexes for size. No double chucking. Motors—110/115 or 220/230 volts; 25/60 cycle Universal; 220/440 three phase, 60 cycle. Explosion-proof, or special motors and switches, extra.

Can't tell it all here! Send for New Beaver Quick Reference Catalog! Get the latest facts on ALL new Beaver machines!

BEAVER PIPE TOOLS INC. 373-500 DANA AVE. WARREN, OHIO

▲ For more details circle NED-730 D7 on enclosed inquiry slip ▲

TEMPERATURE CONTROL in ranges from −100 to 500° F



Close on-off action to regulate calibrating baths, ovens, extruders, incubators, press platens and other processes is provided by model 63 electronic temperature controller. Unit has differential of ±0.1° F for all ranges and is offered in several ranges from −100 to 500° F. It can be placed remote from sensing element and grouped in standard conduit boxes for multiple control uses. Power supply is self-contained in each unit, and control action is unaffected by line variations between 105 and 125 v. Over ten types of thermistor probes are available for use with unit. Made by **Yellow Springs Instrument Co.**, Xenia Ave., Yellow Springs, O.

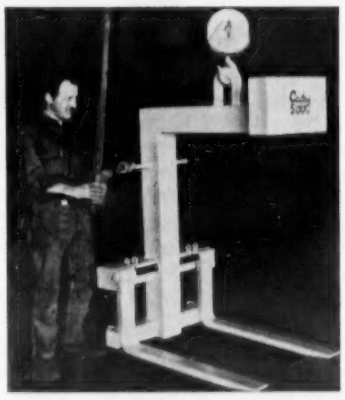
▲ For more details circle NED-731 D7 on enclosed inquiry slip ▲

MACHINISTS' HAMMER features nonbreakable handle

Head weights of 16, 20, 24 and 40 oz are available in this ball peen machinists' hammer with an unbreakable glass fiber handle. Strength allows it to withstand overstriking without bending or breaking. It simulates the resilience of shock-absorbing hickory and will not rot or corrode. Grip of handle is covered with oil and grease resisting neoprene to prevent slipping. Head and handle are joined with Permabond, a chemical weld. Made by **Fayette R. Plumb, Inc.**, 4827 James St., Philadelphia, Pa.

▲ For more details circle NED-732 D7 on enclosed inquiry slip ▲

CRANE PALLET LIFTER forks adjust to load requirements



Adjustable forks enable this pallet lifter to handle pallets of varying widths when used with overhead cranes. Fork bars adjust similarly to those of a fork truck and without tools. Locking pins hold bars in position. Lifter hangs level loaded or empty and is designed with its loaded center of gravity directly under the pick-up lug. Two and three-ton capacities are standard. Made by **Cady Metal Fabricating Co.**, 87 Schenck St., North Tonawanda, N. Y.

▲ For more details circle NED-733 D7 on enclosed inquiry slip ▲

fully PROTECTED? all hands SAFE?

For employee protection and plant safety, GRANET industrial GLOVES give *maximum wear per dollar*. Neoprene, rubber or plastic coated, GRANET gloves are resistant to acids, alkalies, caustics, oils, wet or dry chemicals, abrasive materials, cutting or snagging.

GRANET gloves are made by a super-sensitive automatically controlled process which builds in quality and provides longer wear life. With this *exclusive* process, *high grade* industrial gloves are produced at *competitive prices*.

Shaped fingers and palms for worker comfort, GRANET industrial GLOVES are available full or palm coated and in knitwrist, band top or gauntlet styles. *Stocked* from coast to coast by industrial and safety *distributors* — write for prices and information and name of nearest distributor.

Wear-test a pair of GRANET gloves — write for samples on your company letterhead specifying material to be handled.

GRANET THE GRANET CORP. 15 LORING DRIVE, FRAMINGHAM, MASS.

▲ For more details circle NED-734 D7 on enclosed inquiry slip ▲

ACTUALLY TWO MASTER VALVES IN ONE—interlocked pneumatically.

For double safety, solenoid control keeps press from starting—or will cause it to stop "safe"—unless both valves work simultaneously.

This double-solenoid safety valve makes **FEDERAL** air clutch presses **DOUBLY SAFE**

Here is the answer to faster, safer, more economical production: the new Federal Air Clutch with *double-solenoid control*. Speeds may be increased without damage to work, without sacrificing precision. Makes "repeats" practically impossible. Also, operation is simpler—less fatiguing. Sizes 6 to 100 tons. Write for new catalog today!

No. 4— Air Clutch Press, Fly-wheel type.

FEDERAL PRESS COMPANY 706 Division St., Elkhart, Ind.

FEDERAL Open back Inclinable **PRESSES**

32 Years of Quality Construction

▲ For more details circle NED-735 D7 on enclosed inquiry slip ▲

Small tube cleaning is a cinch with this new, lightweight machine in hand. Motor is powerful air-driven type with a water feeding attachment. Built-in governor eliminates shaft whip — built-in oil reservoir assures long life with minimum maintenance. Available in two sizes. For details, contact your local Elliott representative or write Elliott Company, Springfield, Ohio.

Y6-6

ELLIOTT Company

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • EJECTORS • CONDENSERS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS

▲ For more details circle NED-736 D7 on enclosed inquiry slip ▲

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

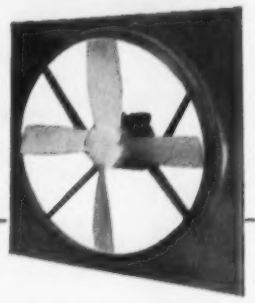
You Harden It—We'll Drill It— With "HARDSTEEL"

BLACK DRILL COMPANY, INC. 1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

▲ For more details circle NED-737 D7 on enclosed inquiry slip ▲

New fan combines power with quietness



HUNTER

Write for literature and prices on the new R&M-Hunter heavy-duty "Q" Type Fans. Certified air deliveries from 2900 to 10800 CFM. Features include: a totally enclosed single-phase, permanent split capacitor motor; one-piece cast aluminum propeller in modern airfoil design; easily installed heavy steel frame with high-efficiency entrance ring.

HUNTER DIVISION - ROBBINS & MYERS, INC.
2452 Frisco Ave., Memphis, Tenn.

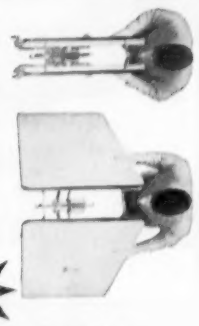
R & M-Hunter "Q" Type Fan

Backed by 75 years' experience

For more details circle NED-738 D7 on enclosed inquiry slip

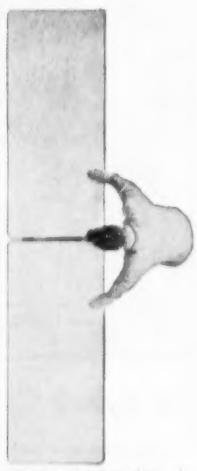
problem: Make one room serve two purposes

solution: The SICO System of folding tables



doubles your space in seconds!

Now you can turn any room into a multi-purpose room—with the Sico System, a complete line of folding tables, with or without benches. The Model L-B (illustrated) is designed for use with chairs; requires 2½ square feet of storage space, rolls easily on giant rubber casters. Its exclusive "Floating Fold" means completely safe operation—no finger-pinching or slamming. Can be folded in 3 seconds by one person. What's more, its sanitary, wear-resistant top of beautiful, heat-bonded plastic is easy to clean, has no cracks, seams or moldings to collect dirt . . . while the rugged structural steel frame is built for long, heavy-duty service; zinc-lustron plated for lasting beauty.



write for **FREE** booklet
it shows you the complete line of money-saving, space-conserving Sico equipment!

SICO
manufacturing company, inc.
5215 Eden Avenue South
Minneapolis 24, Minnesota • Dept. 511

For more details circle NED-739 D7 on enclosed inquiry slip

outserts for your packages applied automatically!

To reduce the cost of applying recipes, product information or premium offers on the outside of packages, Pfaudler offers the new "Outsert Applicator."

It *automatically* attaches your message to the outside of package.

Each outsert is placed just where you want it—never covers an important part of the label. The "Outsert Applicator" becomes a part of your packaging line, synchronizing with fillers and closing machines.

Pfaudler also makes a complete line of high-speed piston filling machines for liquids and semi-solids used by hundreds of leading companies.

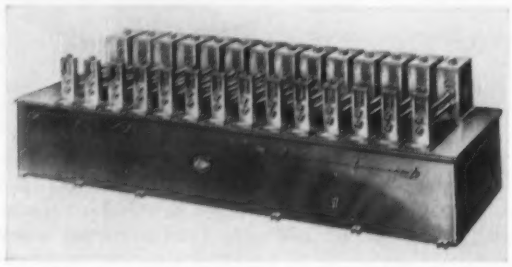
Bulletin 933 describes the applicator; Bulletin 911, rotary piston fillers. Send for them.

THE PFAUDLER CO.
Rochester 3, N.Y.
Specialists in Corrosioneering

For more details circle NED-740 D7 on enclosed inquiry slip

METAL FORMING MILL features interchangeable arbors

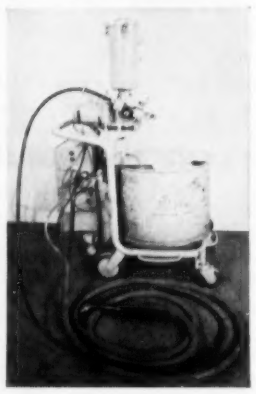
Correct rigidity can be provided and a smooth, clean, wave-free form can be rolled with use of the right sized arbor on the Mohawk universal rolling mill for



metal forming. Mill has 1 to 3-in. interchangeable arbors, changed in about 5 minutes each, which result in rolling of forms to close limits. A variable speed drive and electric control travels the steel strip at the correct speed for forming and maximum production. Mill is powered by a three-phase electric motor through a magnetic clutch and brake to the gear boxes, each equipped with herringbone gears. Each arbor rolls on Timken roller bearings. Mill can be equipped with six or more heads, depending upon need. Made by **Mohawk Metal Forming & Tool Corp.**, 1330 Industrial Ave., Dearborn, Mich.

For more details circle NED-741 D7 on enclosed inquiry slip

CARBON STEEL WELD PROCESS welds can be made in any position with tensile strengths to 85,000 psi



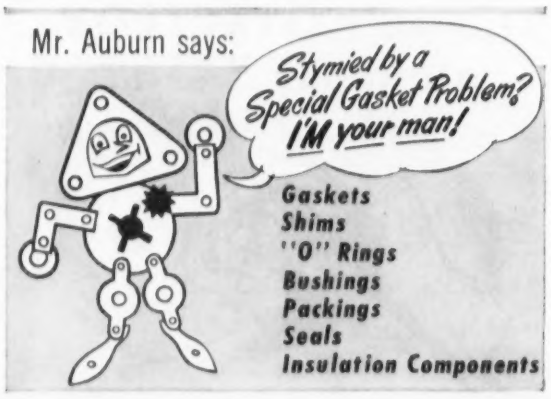
Unionarc semiautomatic metal arc process for manual welding of carbon steel uses a continuously-fed bare wire, powdered magnetic flux and carbon dioxide gas. Welding current establishes a magnetic field around the extended wire and gas-fed flux is attracted toward it and coats it.

As wire is directed into the weld puddle the flux melts, refining the weld metal and shielding it from atmospheric contamination. Open arc characteristic permits good visibility of the weld zone. Welds can be made when moderate amounts of rust, scale and moisture and minor gaps are present.

Ultimate tensile strengths of 75,000 to 85,000 psi are developed. Direct current reverse polarity is preferred. At present, 3/32 and 3/64-in. diameter welding wires are used. Although downhand-position welding with larger wire is most widely used application, the smaller wire is suitable for welding in all positions. Developed by **Linde Air Products Co.**, Room 2840N, 420 Lexington Ave., New York 17, N.Y.

For more details circle NED-742 D7 on enclosed inquiry slip

Mr. Auburn says:



For a quick and definitive solution to design and production problems, call on Auburn's 85 years of specialized experience in engineering materials to specific sealing and packing applications. Send us your prints and specifications—you'll get our recommendations and quotations promptly!

Our extremely wide range of materials includes:

Leather • Asbestos • Teflon
Silicone Rubber
Neoprene Rubber
Cork • Fibre
Compositions • Phenolics
Cloth • Paper • Cardboard
Plastics • Brass • Steel
Copper • Aluminum
Kel-F • Fibreglas
Other Special Materials

THE AUBURN MANUFACTURING COMPANY
306-C Stack St., Middletown, Conn.

Representatives: Atlanta, Ga. • Detroit, Mich. • St. Louis, Mo. • Los Angeles, Cal. • Minneapolis, Minn. • Washington, D.C. • New York, N.Y. • Cincinnati, O. • Rochester, N.Y. • Pittsburgh, Pa. • Fort Worth, Tex.

For more details circle NED-743 D7 on enclosed inquiry slip

Sharp, clean edges of Shuford's SHURTAPE make the "finish" job better!®

Shuford's SHURTAPE CP-11 is a general purpose, pressure-sensitive masking tape with rubber impregnated, crepe paper backing.

Extremely flexible . . . conforms to curves. Adheres instantly . . . strips clean. Leaves paint primer in place.

No paint build-up by brush or spray-gun because thin-gauge Shuford's SHURTAPE has sharp, clean edges . . . makes the "finish" job better!

There's a high-temperature, stain-resistant Shuford's SHURTAPE for all masking applications . . . send your specifications to

Shuford Mills, INC. SINCE 1880 HICKORY, N. C.

CLOTHES LINES • TWINES
PRESSURE-SENSITIVE PAPER TAPES
SASH CORDS • WEATHER STRIPPING
COTTON & RAYON YARNS • EXTRUDED PLASTICS

World's Largest Manufacturer of Cotton Cordage

For more details circle NED-744 D7 on enclosed inquiry slip

INCREASED EFFICIENCY . . . AT LOWER COST

Randall is a dependable sleeve bearing supplier for the OEM Industry. Advanced foundry and machining practice—coupled with a planned research program—have enabled Randall to keep abreast of new designs and developments. Quality, economy, long life and reduced maintenance are features found in all Randall products.

PILLOW BLOCKS—complete, self-aligning units ready for installation incorporating Randall's exclusive "DEEP-WELL"® Ball Assembly.

BALL ASSEMBLIES—may be purchased separately and are adaptable to a wide variety of mountings.

CORED AND SOLID BRONZE BARS—semi-finished, available from stock.

STANDARD BRONZE BUSHINGS—precision finished to close tolerances—available from stock.

SPECIAL BRONZE BUSHINGS—to blueprint specifications—produced with nominal lead time.

GRAPHITED BRONZE BUSHINGS—featuring Randall's exclusive graphite mixture, available in standard and special sizes. Bushings and bars can be supplied in any of the recognized bearing bronze alloys. Pillow Blocks may be modified for special applications and are available with a choice of lubricant.

LOOK TO RANDALL FOR YOUR SLEEVE BEARING REQUIREMENTS

Your nearby Randall distributor is listed in the yellow pages of the telephone directory under "Bearings." Call him today.

USE THIS COUPON TO OBTAIN LITERATURE!

R07

Randall

Clip this coupon to your letterhead, include your name and department and send it to Randall Graphite Bearings, Inc.
☐ Please send me the Randall Pillow Block Catalog. ☐ Please send me the Randall Bronze Catalog.

RANDALL GRAPHITE BEARINGS, INC.
1007 SOUTH GREENLAWN AVENUE, LIMA, OHIO

For more details circle NED-745 D7 on enclosed inquiry slip

TRENT Engineering and Design Trouble-Proofs **IMMERSION and CIRCULATION HEATING UNITS!**

For Efficient Immersion Heating of

- *HOT WATER TANKS*
- *WATER BATHS*
- *RINSES AND CLEANERS*
- *GLUES AND OILS*

Rugged Trent Water Immersion Heaters are available in a complete range of types and sizes for heavy duty service up to 100 KW in single packaged unit.

Dependable, Trouble-Free Heating for

- *CIRCULATING OIL SYSTEMS*
- *ATOMIZATION*
- *HEAT TRANSFER FLUIDS*
- *STORAGE TANK HEATERS*

Heavy duty Trent Oil Immersion Heating Units offer packaged unit design in a range of sizes for service up to 50 KW.

TRENT IMMERSION AND CIRCULATION HEATERS ARE UL AND CSA APPROVED

Let Trent's more than 25 years' manufacturing experience solve your heating problem. Discuss your application with a Trent representative today!

Trent Representatives in Principal Cities Coast to Coast

TRENT INC.
Electrically Heated Industrial Equipment
242 LEVERINGTON AVE., PHILA. 27, PA.
In Canada Supreme Power Supplies Limited, Toronto 14

For more details circle **NED-746 D7** on enclosed inquiry slip

You can speed up your shipments with fewer people and eliminate costly errors

HOW? By improving your method of addressing labels, tags and cartons. Old-fashioned stenciling and labeling methods can seriously delay shipments as well as waste precious time and labor.

FIRST STEP—Send today for your free copy of this new comprehensive booklet that describes the latest systems for addressing labels, tags and cartons.

Your free copy is waiting Send for it today!

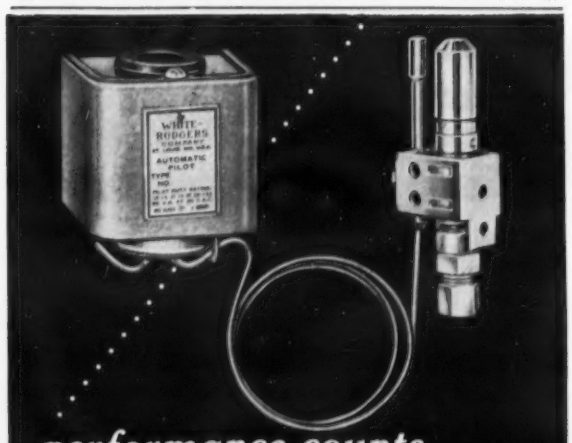
NEW BOOKLET TELLS:

- How to evaluate efficiency of shipment addressing operation
- Modern systems for addressing labels and tags
- The latest direct-to-carton stenciling systems
- Integrated shipment addressing, the newest trend in order-processing

Weber

WEBER MARKING SYSTEMS
Div. of Weber Addressing Machine Co., Inc.
Dept. 21-D
Mount Prospect, Illinois
SALES AND SERVICE IN ALL PRINCIPAL CITIES

For more details circle **NED-747 D7** on enclosed inquiry slip



performance counts...

White-Rodgers Co. selects BISHOP #347 CBTA Capillary Tubing with an .078" OD and .031" ID for dependable performance in its automatic pilots found in the majority of today's gas clothes dryers . . . another typical application of BISHOP quality tubing by today's instrument manufacturers.

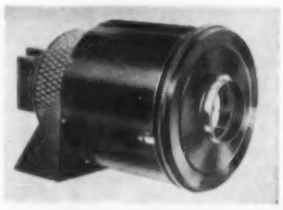
For accurate, dependable performance of your instruments, specify BISHOP tubing.

Capillary, Mechanical, Hypodermic Seamless and welded and drawn Tubing (.008" to 1" OD — .003" to .083" Wall).

STAINLESS STEEL PRODUCTS DIVISION
J. BISHOP & CO. Platinum Works
Malvern, Pennsylvania

For more details circle **NED-748 D7** on enclosed inquiry slip

MULTISTAGE BLOWERS deliver 25 to 350 cfm



Three to nine cascaded pressure stages are incorporated in line of multistage centrifugal blowers. They have deliveries from 25 to 350 cfm at static pressure of 10 to 55 in. water column on suction or pressure. Blowers are direct coupled to ¼ to 2-hp induction motors. Integral air filters and outlet manifolds are available in various configurations. Motors are single or three-phase for all standard line voltages. Small size and light weight suit blowers to electronic, instrument and computer applications. Made by **Rotron Mfg. Co.,** Schoonmaker St., Woodstock, N. Y.

For more details circle **NED-749 D7** on enclosed inquiry slip

PERMANENT MAGNET CHUCK full edge-to-edge magnetic surface

Faceplate construction of model 824 permanent magnet chuck provides full edge-to-edge usable magnetic holding power. Epoxy resin nonmagnetic separator material in faceplate provides stability and makes the chuck light in weight. Separators eliminate wheel loading while dressing, and the chuck can be used for fine tolerance work. The 8 x 24-in. work surface provides 168 sq in. magnetic surface. Only 2-7/16 in. high, chuck weighs 110 lb. It is suitable for handling wide variety of work, including grinding, light milling and shaping. Made by **Taft-Peirce Mfg. Co.,** 11 Mechanic Ave., Woonsocket, R. I.

For more details circle **NED-750 D7** on enclosed inquiry slip

ALUMINUM SAFETY TREADS are antislip wet or dry

Made of permanent, heavy-duty aluminum alloy in widths of 3 and 6 in., Safestride safety treads can be put down in multiple sections to cover any floor, landing, ramp or stair. Treads are furnished in lengths as required so that no cutting is necessary and are installed with screws. On masonry, screws and lead expansion shields are used. Treads feature rows of locked-in safety ribs containing abrasive aggregate and are antislip wet or dry. Made by **Wooster Products Inc.,** Dept. S-13, 100 Spruce St., Wooster, O.

For more details circle **NED-751 D7** on enclosed inquiry slip

"WE PREFER CLAUSING VERTICAL MILLS FOR ALL WORK WITHIN THEIR CAPACITIES!"

The new CLAUSING VERTICAL MILLER is the most accurate machine of its type. The spindle head can be swiveled in a vertical plane and set at any angle, and the turret rotated in a horizontal plane making it possible to mill, drill, bore, ream and shape at all angles with one work set-up.

"Our men prefer Clausing vertical mills for all work within their ½" cutter capacity. They're certainly as accurate as larger machines, and they are far more efficient . . . work set-up is easier, they're easier to get around, and they're far more sensitive."

The Progressive Machine and Tool Company

CONDENSED SPECIFICATIONS

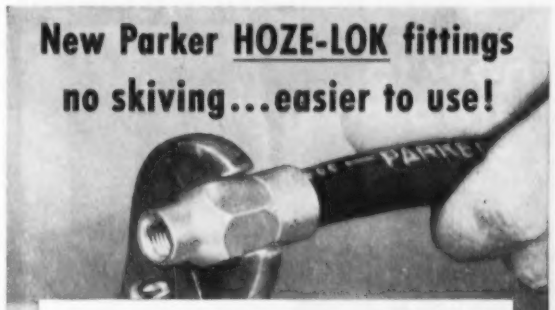
Size of Table	6" x 24"
Longitudinal Table Travel	15"
Transverse Table Travel	5"
Vertical Table Travel	11⅝"
Maximum Distance Spindle to Column	8¾"
Quill Travel	3"

Write For Literature

CLAUSING DIVISION ATLAS PRESS COMPANY
4-113 N. Pitcher St., Kalamazoo, Michigan

For more details circle **NED-752 D7** on enclosed inquiry slip

New Parker HOZE-LOK fittings no skiving...easier to use!



- New re-usable *Hoze-lok* fittings for single- and double-wire braid rubber-covered hose are easy to make up. You don't have to strip off the hose cover . . . you can even assemble most sizes with only a hand wrench.
- Two simple steps: (1) dip end of hose in light grease, such as Parker *Threadlube*, and turn counterclockwise into socket; (2) dip nipple in *Threadlube* and screw into socket and hose.
- *Hoze-lok* holds beyond hose-bursting pressures . . . under severe vibration.
- Ask for NO-SKIVE *Hoze-lok* Catalog 4433.

Parker
Hydraulic and fluid system components

Order from your Parker Distributor — or Tube & Hose Fittings Division, Section 427-Q, The Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio

For more details circle **NED-753 D7** on enclosed inquiry slip

New booklet shows how ZYTEL® nylon resin can improve products

Send for free copy

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In Canada: Du Pont Company of Canada (1956) Limited, P. O. Box 660, Montreal, Quebec

For more details circle **NED-754 D7** on enclosed inquiry slip

how to trap dust
that damages your machines and hurts company morale

Easy-to-move **TORIT** dust collectors trap dust at its source!

Priced from $190.00

Untrapped dust costs money: "secretly" forces precision machines out of line, limits production. Torit dust collectors are unitized for custom installation—save more money, usually more efficient than central (built-into-building) system. Torit unit operates only when machine or combination of machines it protects are on. Filtered air may be returned to room to save heat. Many models and sizes, all self-contained, easy to move. Write today to . . .

TORIT *manufacturing co.*

Dept. 201 311 Walnut Street, St. Paul 2, Minn

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CALCULAGRAPH furnishes accurate cost data *Automatically*

Take the guesswork out of your production costs with a dependable, economical Calculagraph system — a system that gives you accurate time costs automatically.

What's more, many workers can record starting and finishing time on the same Calculagraph and the ELAPSED WORKING TIME for each is computed on your job cards — to the minute or tenth of an hour.

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CALCULAGRAPH *Company*
HARRISON, N. J.

DEPENDABLE ELAPSED TIME COMPUTERS SINCE 1892

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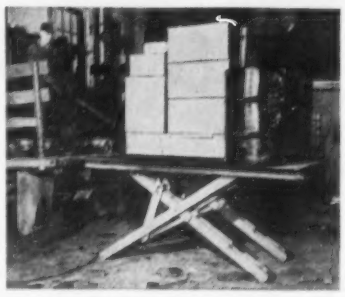
LIFT PLATFORM
use requires no installation



Self-contained, semi-portable design of the Porta-Contact lift platform requires no concrete breaking, excavating or underground piping for use. It can be used indoors or outdoors and on light-load floors for moving materials from one floor level to another, dock loading, bridging spaces and handling heavy loads on production lines. Basic unit has a 6 x 9-ft platform and supports 5000 lb at 2500 lb per axle. Platform sizes and lifting capacity for most requirements up to 100,000 lb can be supplied. It is powered by a pushbutton operated 24 x 12½ x 11-in. hydraulic unit. Raised height of basic unit is 64½ in. and lowered height is only 4½ in. Severing of lead-in hose or other power interruption locks the unit in position. Made by **Autoquip Corp.**, Dept. N, 1140 S. Washtenaw Ave., Chicago 12, Ill.

For more details circle NED-757 D7 on enclosed inquiry slip

FLOOR MACHINE
scrubs, waxes, grinds, polishes

Designed for use on large areas of all types of floor surfacing, including carpeting, the model PR-22 Master floor machine is powered by a 1-hp G-E constant speed motor. It will scrub, shampoo, wax, polish, grind, sand, buff or dry clean floors of 20,000 sq ft or more daily. Machine has permanently sealed ball bearings, an adjustable handle, a 22-in. brush and is only 12 in. high to top of motor housing. A 40-ft cable is furnished. Accessories include solution tank and channel feed brush kit. Made by **Premier Co.**, Dept. NED, 754 Woodlawn Ave., St. Paul 1, Minn.

For more details circle NED-758 D7 on enclosed inquiry slip

Thin Electrical Steel

Representative test results on three types and five different thicknesses of thin electrical steel are given in 56-page manual P.O. 4856. Booklet covers applications, specific uses, how supplied, fabrication, mechanical and physical properties, magetic properties, testing methods and conversion factors. Write: Armco Steel Corp., Product Information Service, Middletown, O. on firm letterhead.

For more details circle NED-759 D7 on enclosed inquiry slip

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ONE COAT = 10 MILS

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Ask for a Littell Coil Weight Calculator

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Quickdraft COMPANY
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Capacities of 56 standard and heavy duty models from 6 to 30 inches diameter . . . 8,400 CFH to 1,005,960 CFH. Greater capacities on request.

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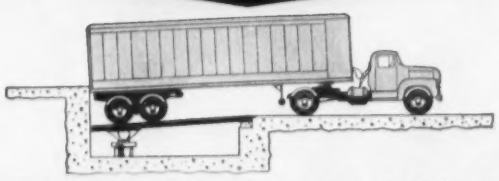
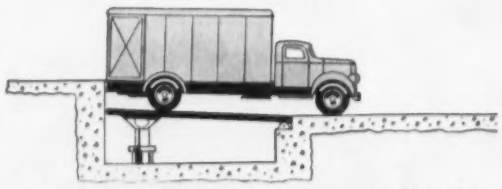
Rotary TRUCK LEVELER
saves dock space • speeds loading



High truck beds are lowered to dock level



Low truck beds are raised to dock level

The Rotary Truck Leveler, using economical hydraulic power, handles any highway carrier at any dock. Easily installed at new or existing buildings. Write for catalog RE-800.

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Series H-Capacities from 2000 to 50,000 Pounds

EUCLID HOISTS

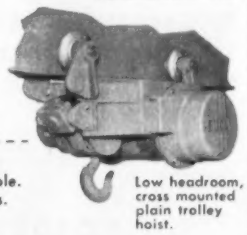
for Dependable Service

These hoists are highly efficient and strictly modern in every detail with oversize anti-friction bearings and heat treated steel parts in combination with a welded frame.

The planetary gearing and mechanical load brake are mounted in oil tight housings. The hoist gearing is assembled in the hoist drum.

This design produces an unusually compact, rugged and accessible hoist readily adapted to various installations and types of control.

Write for Literature



Low headroom, cross mounted plain trolley hoist.

Various other standard and special heavy duty hoists available. Write regarding your requirements.

THE EUCLID CRANE & HOIST COMPANY
1362 CHARDON ROAD • CLEVELAND 17, OHIO

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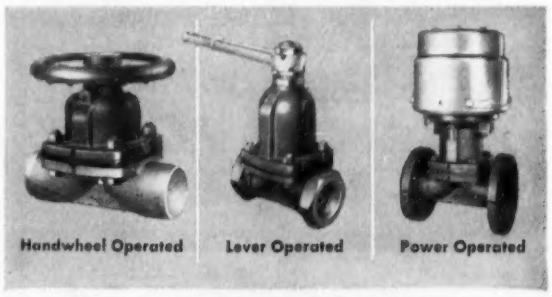
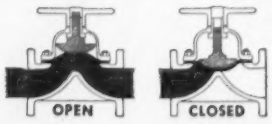


ALL-PURPOSE VALVE

In industries as varied as mining, food, textile, pulp and paper, beverage, water and sewage, chemicals . . . Grinnell-Saunders Diaphragm Valves continue to win enthusiastic acceptance. This valve is unsurpassed for handling such diversified products as corrosive fluids, gases, viscous materials, foods, compressed air, and solids in suspension. The design of the Grinnell-Saunders Diaphragm Valve is unique. The flexible, long-wearing diaphragm presses tight for positive closure.



Grinnell-Saunders Diaphragm Valves are available in a wide range of body and bonnet styles; also body, lining and diaphragm materials.

Choice of Materials

Bodies — iron; cast steel; stainless steel; Durimet 20; Hastelloy, A, B, C; bronze; Monel; aluminum; PVC (polyvinyl chloride); Saran

Body Linings — hard rubber; soft rubber; neoprene; glass; lead; plastics; Heresite; Lithcote

Diaphragms — soft natural rubber, natural rubber; white synthetic rubber; neoprene; reinforced neoprene; butyl; Hycar; Teflon; Kel-F; PVC (polyvinyl chloride); polyethylene

Bonnets — iron; stainless steel; bronze; other materials on special order

Choice of Bodies

Conventional weir type.

Straight bodies — screwed; flanged; socket weld; butt weld; socket (solder); sanitary threads; hose ends; Victaulic

Angle bodies — screwed; flanged; socket weld

Other types

A line of Straightway Valves (for straight-thru flow) and Full-Bore Valves (for ball brush cleaning) also are available.

Choice of Bonnets

Handwheel (non-indicating stem, indicating stem); chain wheel; lever (for quick operation); sliding stem (for a wide selection of power operated topworks)

Write Grinnell for further information.

Grinnell-Saunders Diaphragm Valve

Grinnell Company, Inc.
Executive Offices: Providence, R. I.
Sales Offices and Warehouses in Principal Cities

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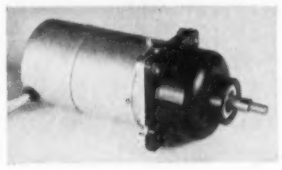
SMALL PARTS ASSEMBLY BIN assembles into many designs

Twelve standard heavy-gage steel parts which can be arranged in many designs comprise the Speedbin small parts assembly bin. A typical installation of six bins forms an arc with 19-in. radius in front of operator. Parts flow to pick-up tray by gravity at rate controlled by adjustable shutter. Bin is filled from rear, making it unnecessary for operator to stop work when parts supply is renewed. Speedbin can be adjusted in width from 2½ to 15 in. Height is either 4½ or 9 in. Assembly is made with speed nuts requiring only one twist to lock into place. Made by **Speed Assembly Equipment Co.**, Dept. NED-4, Box 344, Fords, N. J.

▲ For more details circle NED-766 D7 on enclosed inquiry slip ▲

GEAR HEAD MOTOR miniature unit for intermittent duty



Miniature gear head motor specified for 115 v dc, ±5 v, has an output speed of 12.5 rpm, ±25 per cent. Current drain is 100 ma. Designed for intermittent duty, the reversible motor conforms to military specifications MIL-M-8609 (ASG) and missile purchase description MPD-401. Made by **Western Gear Corp.**, Electro Products Div., 132 W. Colorado St., Pasadena 1, Calif.

▲ For more details circle NED-767 D7 on enclosed inquiry slip ▲

ULTRA-HIGH VACUUM VALVE seals system without contamination

Ability to seal a vacuum system from a diffusion pump without contamination is built into the VAU-25 ultra-high vacuum valve. It handles pressures of 10^{-10} mm Hg and lower, and its effective conductance for nitrogen is 1×10^{-11} liter per second. Valve assembly, separate from driver mechanism which opens and closes the valve, can be baked out at up to 450° F. Driver mechanism contains a differential screw and is rotated by a torque wrench. Valve has two ¼-in. copper vacuum leads. Made by **Consolidated Electrodynamics Corp.**, Rochester Div., 1775 Mt. Read Blvd., Rochester 3, N. Y.

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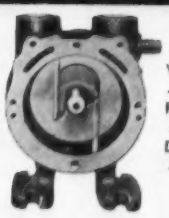
LEIMAN AIR PUMPS maintain rated capacity for years and years

VACUUM —up to 29.9" Hg.
PRESSURE —up to 20 psig.



2 WING TYPE
Vacuums -to 29.9" Hg.
Pressures -to 20 psig.
Displacement -to 40.8 c. f. m.

4 WING TYPE
Vacuums to 20" Hg. Pressures to 15 psig. Displacement to 162 c. f. m.

Take up their own wear to assure leakproof seal

Wear and trouble have been designed out of Leiman Air Pumps. The rotating wings (cast iron in the 4-wing type, steel in the 2-wing type) hone the cast iron cylinder walls to glassy smoothness. Negligible wear is automatically taken up, maintaining "new pump" efficiency for periods of 10, 15 and 20 years.

Leiman Air Pumps have fewer moving parts—no tips or blades to renew—need no maintenance except occasional oiling—run quietly and trouble-free. Wide range of sizes and models for countless vacuum, suction and pressure jobs. Distributors and engineering assistance available in all industrial centers.

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VACUUM PUMPS

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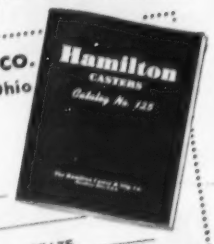

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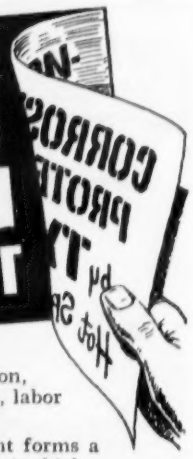

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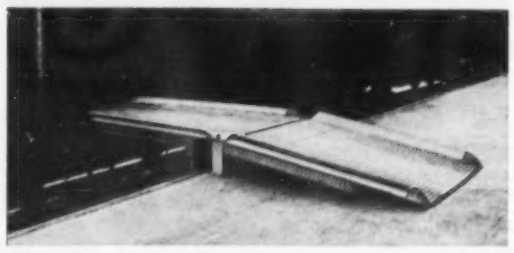
MAGNESIUM RAMP-DOCKBOARD for large height differentials

Long approach needed to compensate for large height differentials between dock and floor of boxcar or truck is provided by the model RD magnesium ramp-



dockboard. It is also suited for use where low underclearance problems require a long, gentle slope. Built in two detachable sections, it is easily handled by one man. Ramp section is permanently elevated on one end. Dockboard section can be used independently. Both have safety tread surface. Capacities up to 12,500 lb axle loading are available. Width, elevation, length and capacity can be altered to suit any need. Made by **Copperloy Corp.**, Lite-Line Industries Div., 4116 Brookpark Rd., Cleveland 24, O.

For more details circle NED-776 D7 on enclosed inquiry slip

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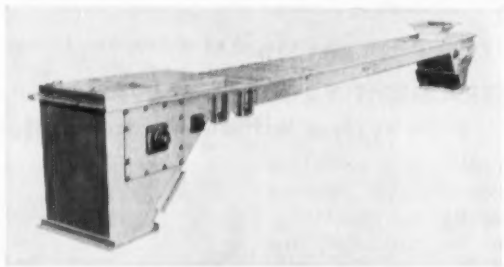
Fragile materials which would break or fracture, such as soap chips or flake cereals, can be conveyed over horizontal distances up to 300 ft with a mini-



mum of frictional resistance on this slider board belt conveyor. Offered in 16 and 20-in. widths, it will travel up and down slopes, handle large capacities, has low power requirements and can be reversed. Use can be under bins or other material containers or as an inspection table.

Endless belt of any required material operates on a smooth sheet metal trough located between head and foot pulley terminals. Slider board is enclosed between full length skirt plates to confine the material and provide the necessary depth for desired capacity, or to accommodate lumpy and slightly abrasive material. A cover can be provided over the conveyor. Made by **Sprout, Waldron & Co.**, 8 Logan St., Muncy, Pa.

For more details circle NED-777 D7 on enclosed inquiry slip

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Mo-lyb-den-um alloy blades

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THE WOOD SHOVEL & TOOL CO.
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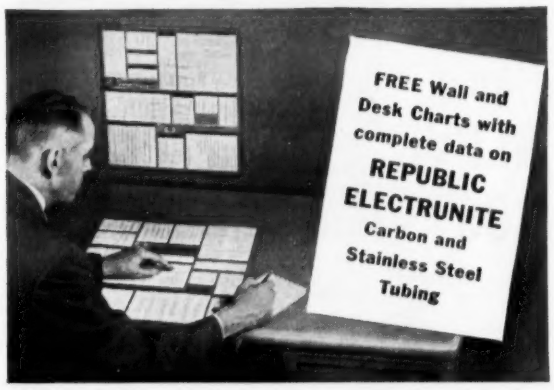

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Join Plain-End Pipe

WITHOUT THREADING

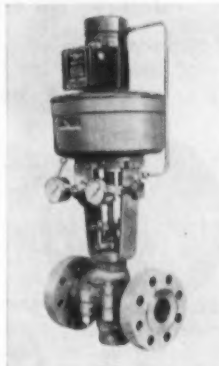
Ideal for joining pipe on pumps, compressors, engines, tank lines, cooling systems—in fact, wherever small piping is used. The quickest, easiest, most economical way to join plain-end pipes permanently is with Dresser Style 38 Couplings. Fast? . . . a 4-minute connection! And a wrench is the only tool you need. These couplings absorb expansion-contraction stresses without leakage . . . for years of rugged, dependable service. Sizes from ⅜" ID through 2" OD. Write today for FREE catalog.

DRESSER® MANUFACTURING DIVISION

30 Fisher Ave., Bradford, Pennsylvania

▲ For more details circle NED-783 D7 on enclosed inquiry slip ▲

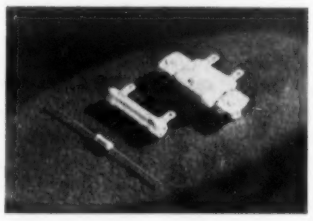
CONTROL VALVE POSITIONER
responds to direct current signals



Model E electro-pneumatic positioner, now available as an integral component of Conoflow series LB control valves, provides valve positioning that is directly proportional to direct current signals received from electronic instruments. Line of pneumatic cylinder Conomotor actuated valves with single-seated, split bodies accommodates the positioner which operates on 100-psi plant air lines. Unit has no transmission lag. Made by **Conoflow Corp.**, 2101 Arch St., Philadelphia 3, Pa.

▲ For more details circle NED-784 D7 on enclosed inquiry slip ▲

RESISTORS
various sizes in three mount types

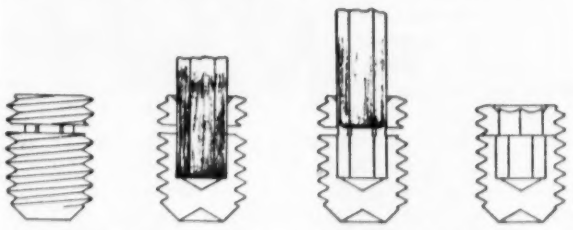


Stack, tab terminal and axial lead mountings are available in line of MIL-R-26C fixed wire-wound power type resistors. Offered in all sizes with G, V or Y characteristics, they have maximum dissipation ratings from 2.5 to 210 w. All feature Vitrohm vitreous enamel construction. Made by **Ward Leonard Electric Co.**, 51 South St., Mt. Vernon, N. Y.

▲ For more details circle NED-785 D7 on enclosed inquiry slip ▲

SOCKET SET SCREW
locking type is reusable

Severe vibration encountered in motors, pumps and machine tools is withstood by Sta-Loc self-locking socket set screw. Loosening in service is prevented



by wedging action of screw threads without damage to the threads. Reusable screw can be loosened by wrench and reset in any desired position. Sequence of sketches shows installation procedure from left to right. Hex wrench is inserted to bottom of socket and screw is tightened, then wrench is raised to lock upper section of screw to bottom. Locked fastener is at right. Made by **Sta-Loc Inc.**, Dept. I, 1319 Widergren, Rockford, Ill.

▲ For more details circle NED-786 D7 on enclosed inquiry slip ▲

MICRO SWITCH . . . FIRST IN PRECISION SWITCHING

MICRO SWITCH "ML" Switches combine rugged construction with precise operation

The switching unit is enclosed within a sturdy aluminum housing which protects the precision switching unit from physical damage, provides a means of mounting and permits conduit-type wiring. Both single- and two-circuit switching units are available. Electrical rating is 20 amperes 120, 240, 480 volts ac; ½ ampere 115 volts dc; ¼ ampere 230 volts dc; ¾ H.P. 110 volts ac; 1½ H. P. 220 volts ac.

Read this "how others do it" publication

MICRO Tips is full of practical ideas for using snap-action switches. Write today if you are not now on our mailing list.

MICRO SWITCH
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

▲ For more details circle NED-787 D7 on enclosed inquiry slip ▲

Now! High-speed Power Tool Assembly of

PALNUT WING NUTS

New MAGNETIC WRENCH

speeds factory assembly of PALNUT Wing Nuts on production line items, eliminating slow, costly manual assembly. Hardened alloy steel, with magnetized center and slotted sides. Adapted to all standard power and hand tools.

OTHER FEATURES: PALNUT Wing Nuts are vibration-proof—spin onto threads freely, then exert a spring locking action when finger tightened. Hold tight until finger released. With all these features, PALNUT Wing Nuts cost less than ordinary types. Available in sizes #6-32, #8-32, #10-32, #10-24, ¼"-20 and 5/16"-18. Choice of finishes; Cadmium, nickel, chrome or others to order. Send for further details and free samples, stating sizes required.

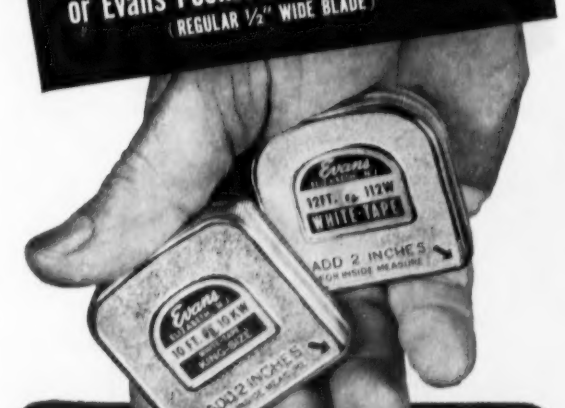
PALNUT TRADEMARK LOCK NUTS

THE PALNUT COMPANY
Subsidiary of United-Carr Fastener Corp.
45 Glen Road, Mountainside, N. J.
Canada: P. L. Robertson Mfg. Co., Inc., Milton, Ont.

▲ For more details circle NED-788 D7 on enclosed inquiry slip ▲

TO PURCHASING AGENTS ONLY!

FREE! Your Choice . . .
Evans KING SIZE 10-ft. White-Tape (EXTRA-WIDE BLADE)
or Evans Pocket 12-ft. White-Tape (REGULAR ½" WIDE BLADE)



Attention Purchasing Agents:

We make this startling offer to introduce your company to Evans' superior King-Size and Pocket White-Tapes, the finest measuring tapes manufactured.

Simply fill in the coupon below and we'll send you, absolutely free and without any obligation, your choice of either our King-Size 10-ft. ($2.39 retail) or Pocket 12-ft. White-Tape ($1.89 retail)! (Offer limited to one tape per purchasing agent.)

We feel that once you try Evans Tapes, you'll never buy another brand. Here's why:

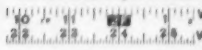
EVANS KING-SIZE

10-ft. ¾" Wide Steel Tape Stands Up Straight for Easy One-Man Measurements.

The 33% wider blade (full ¾") stays straight up—will not bend when making measurements. Chrome plated zinc die-cast case. Free belt clip for handy carrying and Free Tenite Utility Case. Self-adjusting sliding hook for accurate inside-outside measuring.

Also available in 6, 8, 12-ft. lengths.

All EVANS Tapes are marked so your men don't have to figure!



EVANS 12-ft. Pocket WHITE-TAPE

Measures a full 12 feet—eliminates adding two measurements as with shorter tapes. Regular ½" wide blade. Chrome plated zinc die-cast case. Self-adjusting sliding hook for 100% accurate inside or outside measurements. Free transparent Tenite Utility Case.

Also available in 6, 8, and 10-ft. lengths.

Evans RULE CO., Dept. 127, Elizabeth, N.J.

Please send me free sample of (check one)
☐ King-Size 10-ft. Steel Tape ☐ Pocket 12-ft. White-Tape
☐ Send catalog page on Evans Tapes with custom name-plates for gifts to our customers carrying our advertising message.

My two sources of supply for steel tapes are:
1) _____
2) _____
Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

For quick, efficient service call your Industrial Distributor. He is your most economical source of supply.

COLES CRANES

cut costs 101 ways*

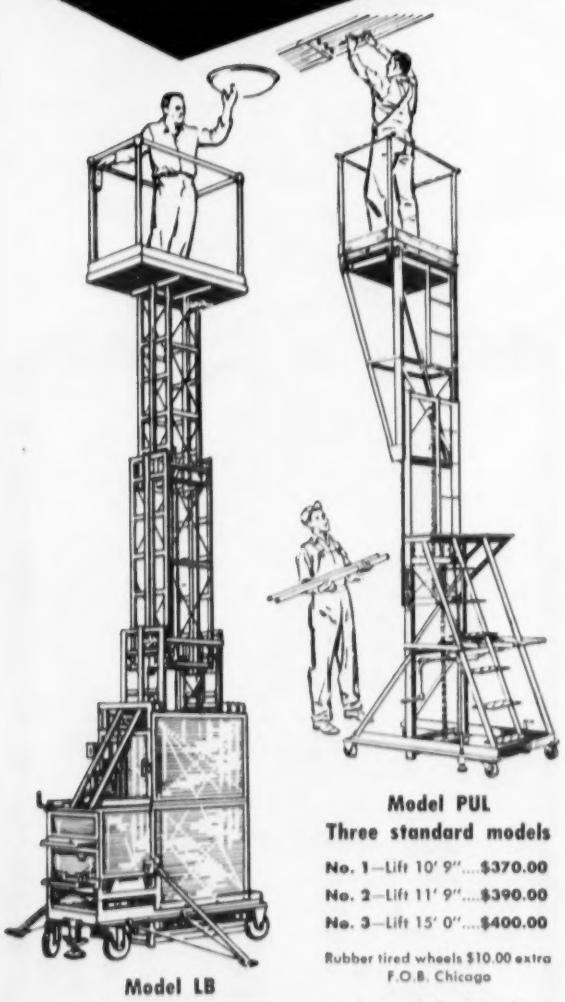
WRITE FOR YOUR COPY of *"101 Cost-Cutting Ways"**—a suggestion-wise booklet about the variety of lifting and conveying operations you can do easier, safer for less with a COLES CRANE. For among mobile cranes, none other—not one—matches Coles' performance, precision, maneuverability and all-around economy. And Coles carries a full one year warranty!!

COLES CRANES, INC.—
JOLIET 4, ILLINOIS

for nearest distributor-see your classified directory

For more details circle NED-789 D7 on enclosed inquiry slip

90% of overhead servicing jobs can be done faster and with perfect safety with these ECONOMY Hi-Reach Telescopers!



Model PUL
Three standard models

No. 1—Lift 10' 9"....$370.00
No. 2—Lift 11' 9"....$390.00
No. 3—Lift 15' 0"....$400.00

Rubber tired wheels $10.00 extra F.O.B. Chicago

Model LB
Hi-Reach Telescopers

Four heights 20 ft. to 35 ft.
Standard Models from $1510.00 up.

Custom built Hi-Reach Telescopers up to 100 ft.

Write for complete catalogue

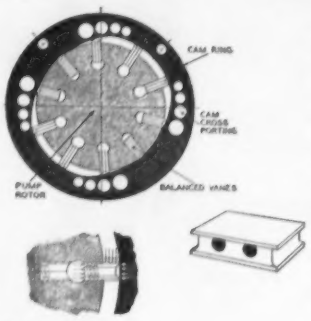
Headquarters for standard and special built overhead service lifters and material handling equipment since 1901

ECONOMY ENGINEERING
4519 West Lake St., Chicago 24, Illinois

For more details circle NED-790 D7 on enclosed inquiry slip

HYDRAULIC PUMPS
for continuous 2000-psi service, deliver up to 100 gpm at 1800 rpm

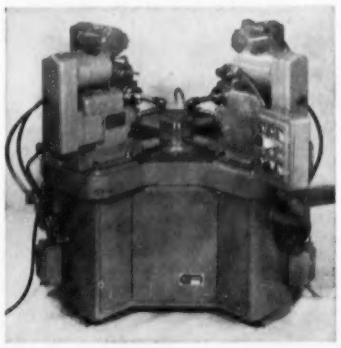
Hydraulically balanced vanes are key to high efficiency of series T hydraulic pumps for continuous service up to 2000 psi. Pumps are offered in rated deliveries up to 100 gpm at speeds up to 1800 rpm, and with either clockwise or counter-clockwise shaft rotation. Units consist of housing with outlet connection; floating pump cartridge consisting of front port plate, vanes, rotor and cam ring assembly (shown); and rear port plate.



Pumps are applicable to earth-moving equipment, special machinery such as extrusion presses, and automatic feed circuits and index mechanisms. Pump can be face, foot or flange mounted in any of four positions on mounting bracket. Diagram also shows how pressure balancing relieves hydraulic bearing loads between vanes and cam ring. Made by **American Brake Shoe Co.**, Denison Engineering Div., 1152 Dublin Rd., Columbus 16, O.

For more details circle NED-791 D7 on enclosed inquiry slip

CROSS-HEAD DRILLING MACHINE
four drill heads pivot to any position within 270-degree arc



Multiple operations can be performed rapidly on this automatic cross-drilling machine by four horizontally-mounted drill heads which pivot around the axis of the workpiece through an arc of 270 degrees on the same plane. Feed movements are hydraulically powered. A four-position drum switch controls the sequence of operation of the heads. Thus, complete operating cycles can be set up or changed instantly. Control of heads is interlocked to prevent drill interference.

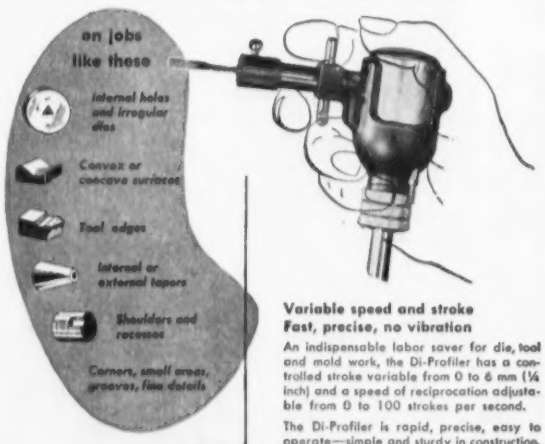
Although heads operate in preset sequence for cross-drilling, they can also operate simultaneously when holes do not intersect. Through-drilling can be performed by one head; reaming, with an opposed head. In the same cycle, workpiece can then index 90 degrees for counterboring and chamfering with other two opposed heads. Made by **Russell T. Gilman, Inc.**, Dept. ND, 623 Beech St., Grafton, Wis.

For more details circle NED-792 D7 on enclosed inquiry slip

THE Di-Profiler

RECIPROCATING HAND MACHINE

for time-saving cutting—roughing—finishing



Variable speed and stroke
Fast, precise, no vibration

An indispensable labor saver for die, tool and mold work, the Di-Profiler has a controlled stroke variable from 0 to 6 mm (¼ inch) and a speed of reciprocation adjustable from 0 to 100 strokes per second.

The Di-Profiler is rapid, precise, easy to operate—simple and sturdy in construction. Its weight of less than one pound and freedom from vibration eliminate fatigue and assure perfect control for the most intricate work.

Moderately priced, the Di-Profiler pays for itself many times through time-saving cost reductions.

Write for free demonstration or illustrated price list DN-47

Tools for every type of work
CUTTERS, FILES, DISCS, POINTS, BURRS, LAPS, SCRAPERS

ENGIS EQUIPMENT COMPANY
Sole Authorized Distributor for the United States
431 S. Dearborn Street, Chicago 5, Illinois

For more details circle NED-793 D7 on enclosed inquiry slip

MARSHALLTOWN

Capacities from 18 Gauge to ½"
Cuts any SIZE . . . any SHAPE

America's finest for every cutting job—straight, irregular or circular patterns.

Speedy—up to 6 ft. per minute. Efficient, easy to operate.

Built for extra heavy duty use. High grade tool steel cutters.

Write today for details and prices.

MARSHALLTOWN MFG. CO., Marshalltown 2, Iowa

For more details circle NED-794 D7 on enclosed inquiry slip

You can cut your GLOVE COSTS

with the authorized

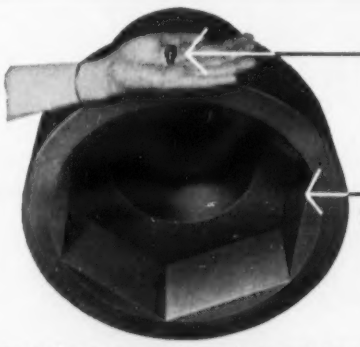
JOMAC COST-REDUCTION PLAN

send for free booklet

It contains dollars-and-cents proof that glove costs can be reduced. Write today to Jomac Inc., Dept. G, Phila. 38, Pa., and ask for "Evidence" booklet.

JOMAC INDUSTRIAL GLOVES
Plants in Philadelphia, Pa., and Warsaw, Ind.
In Canada: Safety Supply Company, Toronto

For more details circle NED-795 D7 on enclosed inquiry slip



FROM THIS
for 3/16" hex nuts
(TV set production)

TO THIS
for 10 5/8" hex nuts
(hydraulic press maintenance)

Illustrating the smallest and the largest Apex impact sockets proves only that you can get an Apex socket to run any size of hex nuts you may be using on your production or maintenance work.

These extremes of socket size do not show the precision machining of the high carbon electric furnace alloy steel used in Apex sockets. Nor do they show the cold broaching and carefully controlled heat treating that enables Apex sockets to withstand the severe shocks and strains of heavy-duty service.

But you can easily prove that Apex impact sockets will outperform and outlast ordinary sockets. Just try Apex impact sockets on your work—you'll soon see that freedom from quick wear-out and breakage will help boost productive output per tool and help lower your tool costs.

Catalog 29-R lists 5,000 types and sizes of Apex Nut Running Tools; write, on your company letterhead please, for your copy.

Ask **APEX** *for the answer to your fastening problem!*

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

For more details circle NED-796 D7 on enclosed inquiry slip

GET THIS GUIDE TO GEAR LUBRICATION

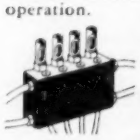
IT'S NEW

IT'S COMPLETE

IT'S **FREE**

If you design, build or use equipment with large gears, Bulletin 60-A can save you time, money and headaches—provides complete information on Farval Spray Lubrication Systems available for manual or automatic operation.

Write today. You will receive a copy of Bulletin 60-A and the name and address of the Farval representative in your area who is prepared to help you select the proper Farval equipment for your machines.



THE FARVAL CORPORATION

3283 East 80th Street • Cleveland 4, Ohio

Affiliate of The Cleveland Worm & Gear Company, Industrial Worm Gearing.
In Canada: Peacock Brothers Limited.

▲ For more details circle **NED-797 D7** on enclosed inquiry slip ▲

A break for men who wear hoods!

New Bullard abrasive blasting helmets and lead discing helmets are extra lightweight. Wear them for hours without fatigue. Protection from overhead hazards is afforded by a "HARD BOILED" aluminum hat used as a headpiece.

Wearer has clear, wide angle visibility through large hinged plastic face piece. To diminish abrasive pitting, perforated metal screen slides over face piece.

Cape is lightweight, double coated plastic with dust-proof self adjusting inner neckband.

USE CLEAN MOISTURE-FREE AIR

Wherever compressed air is used in helmets, tools or painting, a Bullard purifier hooked into the system dries and cleans air from compressor — protecting men and materials.

Write for catalog and specifications of Bullard protective hoods and air purifying equipment.

E. D. BULLARD COMPANY, Sausalito, California

BULLARD INDUSTRIAL SAFETY EQUIPMENT

▲ For more details circle **NED-798 D7** on enclosed inquiry slip ▲

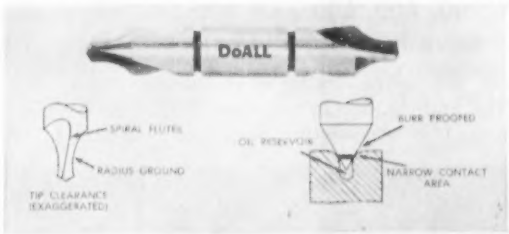
LIQUID-TIGHT ELECTRIC CONDUIT
UL-approved and has plastic sheath

Offered in ⅜ to 2-in. sizes, Flex-Seal type XL electrical conduit is liquid-tight and flexible. It is UL-approved and can be used for installations as outlined in article 251 of the National Electrical Code. It consists of flexible galvanized steel conduit with a copper bonding strip spirally wound in the spaces between the convolutions and is covered with an extruded vinyl plastic sheath. It is also available as type EX without the bonding strip, meeting JIC standards. It will withstand attack by coolants, moisture, fats, corrosive fumes, chemicals and salt air. It can be bent to small radii to hug contours of any machine or to fit complex shapes. Finish is harmonizing gray. Made by **Columbia Cable & Electric Corp.**, 257 Chestnut St., Brooklyn 8, N. Y.

▲ For more details circle **NED-799 D7** on enclosed inquiry slip ▲

SAFETY CENTER DRILL
design eliminates deburring, grinding and lathe center damage

Radial type D-400R safety center drills for precision work incorporate a design which eliminates deburring, grinding and lathe center damage. This model, available in sizes 1 through 8, is ground to a radius to eliminate sharp notch areas which constitute fatigue points. Design also introduces back taper to drill portion to provide tip clearance which reduces drill breakage. Spiral flutes are also used to prevent jamming.



The D-400S heavy duty center drills, available in sizes 11 through 18 provide large contact area for use on heavy parts, while still retaining advantages of the radial type. Since drill is ground with an 82-degree top angle, it effectively deburrs the corners, or countersinks, if desired. Made by **DoALL Co.**, 256 N. Laurel Ave., Des Plaines, Ill.

▲ For more details circle **NED-800 D7** on enclosed inquiry slip ▲

Signaling Equipment

Auth Electric Co.—Audible signals, pushbuttons, hold-up and burglar alarms, transformers, annunciators, door chimes, two-way telephones, terminal blocks, door openers and marine signals are among the hundreds of signaling devices described in 56-page catalog E. The audible signals include bells, buzzers, horns and sirens for every condition.

▲ For more details circle **NED-801 D7** on enclosed inquiry slip ▲

Infra-Red Ovens

ANY SIZE-ANY SHAPE

You Can Assemble Your Own

with **driQuik**

INTERLOCKING SECTIONS

Your own maintenance crew can build panels or ovens for any application easily: heating, baking, dehydrating, curing, degreasing, etc. Pre-engineered, completely wired sections of unique ceramic type lava coated infra-red generators whose temperature can be changed to any percentage of rated power without waste of current. No bulbs or sockets to burn out.

REDUCE DRYING TIME FROM HOURS TO MINUTES as many factories have done and also produce better products at less cost whether metal, wood or plastic. Write for engineering data today.

driQuik DIVISION — **DRY CLIME LAMP CORP. GREENSBURG, INDIANA**

▲ For more details circle **NED-802 D7** on enclosed inquiry slip ▲

HEVI DUTY ELECTRIC COMPANY

"MULTIPLE UNIT"

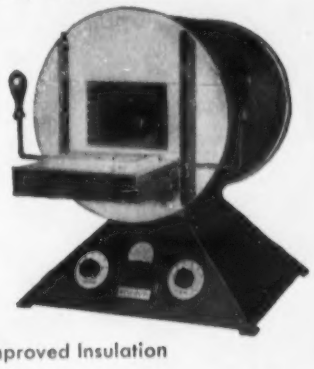
MUFFLE FURNACE

With Many Advantages

For Temperatures to 1850° F.

FOUR STANDARD SIZES

Write for Bulletin LAB-849



★ Less Heat Loss — Improved Insulation and No Rheostats

★ Better Control Through a 36-Step Tap Changing Transformer in the Pyramidal Base

★ Pyrometer and Transformer Control Assembly in Easily Removed Base Drawer

★ Reversible "Multiple Unit" Heating Elements

HEVI DUTY ELECTRIC COMPANY
HEAT TREATING FURNACES **HEVI DUTY** ELECTRIC EXCLUSIVELY
DRY TYPE TRANSFORMERS — CONSTANT CURRENT REGULATORS
MILWAUKEE 1, WISCONSIN

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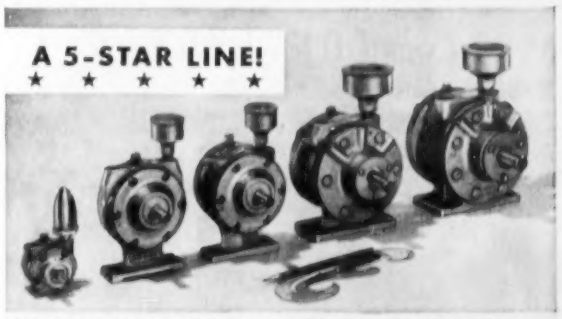
A 5-STAR LINE! ★ ★ ★ ★ ★



★Model 1AM ★Model 2AM ★Model 4AM ★Model 6AM ★Model 8AM

GAST ROTARY AIR MOTORS

are explosion-proof, variable in speed, low in cost!

Connected to any compressed air line, Gast Air Motors offer you:

1. Explosion-proof power. No danger!
2. Low initial cost per rated h.p.
3. Variable-speed with valve control.
4. Can't burn out from overloads.
5. Vanes take up their own wear.
6. Reversible rotation optional on Models 4AM and 8AM.
7. Very compact—light in weight.
8. Top-quality ball-bearing design.

Write for Bulletins—specify models!

Gast Manufacturing Corp., P.O. Box 117-R Benton Harbor, Mich.

PERFORMANCE TABLE

Model No.	R.P.M.	HORSE POWER at 60 P.S.I.	HORSE POWER at 90 P.S.I.	Wt. Lbs.
1 AM	2,000 5,000	0.11 0.21	0.13 0.30	1½
2 AM	1,000 2,000	0.22 0.40	0.35 0.57	5¼
4 AM	1,000 2,000	0.48 0.78	0.73 1.10	7½
6 AM	500 2,000	0.40 1.30	0.65 2.00	18
8 AM	500 1,500	1.00 2.30	1.45 3.80	25

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY
• AIR MOTORS TO 4 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.
See Our Catalog in Sweet's Product Design File

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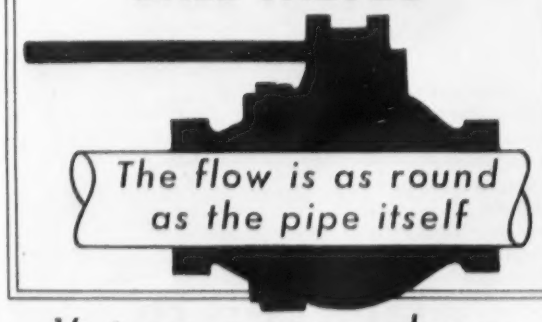
Specify—

ROCKWOOD FULL FLOW BALL VALVES



The flow is as round as the pipe itself

¼ turn opens, closes

Leakproof · Rugged Chrome-plated Bronze Ball

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY
1348 HARLOW STREET, WORCESTER 5, MASSACHUSETTS

▲ For more details circle **NED-805 D7** on enclosed inquiry slip ▲

MANEUVERING ELIMINATED

by chemical plant with Pettibone Speed Swing's exclusive 180° boom swing

One of the practical reasons why the versatile Speed Swing is fast becoming the most popular yard machine is demonstrated above. Speed Swing does not require a large area for maneuvering. The material is lifted high, in seconds, as Speed Swing backs from the pile, saving time and loading costs. Write today for literature describing the six attachments and outstanding operating features of the Speed Swing. There's no obligation!

THE NEW YARD SENSATION **PETTIBONE** SPEED SWING

Pettibone Mulliken Corp., 4700 W. Division St., Chicago 51, Ill. • SPaulding 2-9300

For more details circle NED-807 D7 on enclosed inquiry slip

IT'S DONE WITH CONVEYORS

- MULTIPLE LEVELS
- CONVERGING AND DIVERGING LINES
- PRACTICALLY AUTOMATIC

Metzgar combines Live Roller, Power Belt and Gravity conveyor units in a highly complicated handling operation that approaches complete automation. Ask our experienced engineers to suggest efficient solutions to your handling problems.

ADJUSTABLE HEIGHT POWER BELT
LIVE ROLLER
DIVERTING RAILS

GET METZGAR'S SUGGESTION Before You DECIDE

METZGAR CONVEYOR CO.

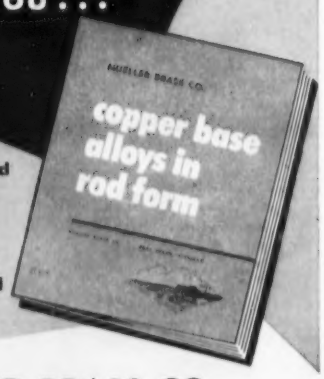
416 Douglas St. N.W.

MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

GRAND RAPIDS 4, MICH.

For more details circle NED-808 D7 on enclosed inquiry slip

new RED TIP S-C* rod can cut costs for you...



"super-cutting" rod produced semi-continuously available only from the MUELLER BRASS CO. . . . send for complete manual

MUELLER BRASS CO.

PORT HURON 37, MICHIGAN

194

please send me a copy of your ENGINEERING MANUAL FM-3010

NAME _____

COMPANY _____

ADDRESS _____

For more details circle NED-809 D7 on enclosed inquiry slip

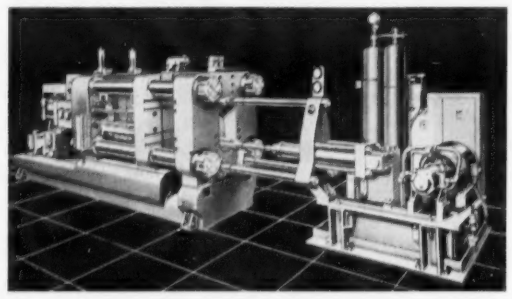
ELECTRIC WELDERS are combination ac-dc machines

Two Idealarc combination alternating and direct current welders, rated 180 and 250 amp, are designed for light production and maintenance welding. They operate equally well as a transformer type unit or as a rectifier welder. A switch on the front panel changes machine from alternating to positive or negative direct current operation. This feature permits use of all types of manual electrodes, including stainless and alloy rods. They operate on 230-v, 60-cycle, single phase ac. Continuous current control is provided throughout the entire range of welding heat. Overload protection, recessed front panel to protect controls, cable strain loops, and an arc stabilizer on the 250-amp model are features. Two-wheel steel or solid rubber-tired undercarriages are available. Made by **Lincoln Electric Co.**, Dept. H, 22801 St. Clair Ave., Cleveland 17, O.

For more details circle NED-810 D7 on enclosed inquiry slip

DIE CASTING MACHINES 200, 400, 600 and 800-ton capacities have improved clamp, injection end

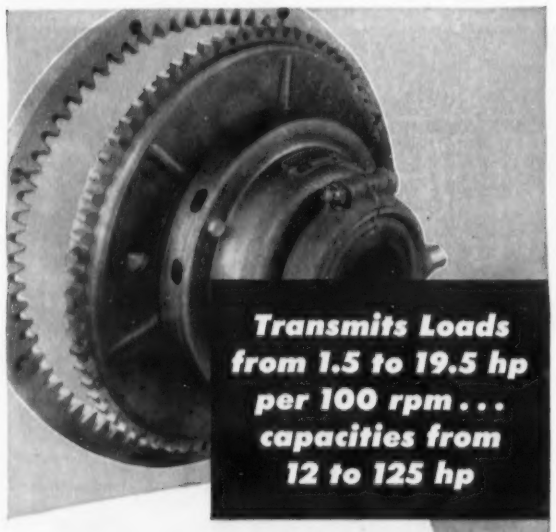
Clamp link-wedge locking mechanism and extra heavy platens and tie rods in improved line of high pressure cold chamber die casting machines lock and preload



dies to rated tonnage of the machines. Capacities are 200, 400, 600 and 800 tons. Central screw adjustment is motorized for quick die set-up and tonnage control.

Improved injection end makes possible production of difficult castings with a minimum of "cut and try" on gates, vents and overflow. Porosity problems, surface finish and "fill" difficulties are negligible with the high plunger speeds available and positive pressure follow-through from pump without hesitation. Pressure and press cycle controls are designed to permit repeat set-ups. Made by **Hydraulic Press Mfg. Co.**, 1052 Marion Rd., Mt. Gilead, O.

For more details circle NED-811 D7 on enclosed inquiry slip



Transmits Loads from 1.5 to 19.5 hp per 100 rpm . . . capacities from 12 to 125 hp

Twin Disc Model CL Clutch is a rugged, heavy-duty enclosed unit—small and compact for requirements limited by space—with one, two and three friction plates . . . sizes 5.5" to 11.5". Write Twin Disc *today*, for Bulletin 120-D.

TWIN DISC Clutches

TWIN DISC CLUTCH CO. • Racine, Wisconsin

For more details circle NED-812 D7 on enclosed inquiry slip

Cold-rolled high carbon

SPRING STEEL

• National-Standard Company's ATHENIA STEEL DIVISION produces many types of strip steel to precision specifications . . . temper, finish, color, edge, forming characteristics, uniformity, tolerance, etc. Products include flat steels in widths up to 6½" tempered and 16" cold rolled or annealed; thicknesses from .001 to .065, depending on width.

Write to Athenia for complete information on what we can provide and on our facilities for development of new or special steel.

Athenia Steel Division, Clifton, New Jersey

NATIONAL STANDARD

For more details circle NED-813 D7 on enclosed inquiry slip

Rugged and Versatile

Model JRF-½

Phil-Dump Jr.

Sturdily built to withstand rough fork truck service, the versatile Phil-Dump Jr. is still designed and sized for speed and convenience when propelled by hand. Features a self-dumping hopper which returns to loading position—automatically locks after emptying. Tires are hard rubber—rear wheel castered. Capacity one-half cubic yard.

Write for Bulletin E-1a.

SALEM-BROSIUS, INC.

16 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

Manufacturers Since 1863

For more details circle NED-814 D7 on enclosed inquiry slip

CUT FASTENER COSTS WITH TINNERMAN

Speed Nuts®

Popular cost-cutters on thousands of assembly lines . . . Tinnerman "U" and "J" Type SPEED NUTS! These versatile, spring steel fasteners snap into place by hand, are self-retained in screw-receiving position. They furnish secure, vibration-proof attachments, eliminating welding, clinching, staking, tapping of holes, costly threaded inserts. Available for a full range of screw sizes and panel thicknesses. Write for complete details.

TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

For more details circle NED-815 D7 on enclosed inquiry slip

NEW...

SPRAY

BELT DRESSING

is easy to apply—no waste!

More for your money! The convenient NEW aerosol CLING-SURFACE dispenser makes it EASY to apply to multiple V-Belt drives; to leather, rubber covered and hair belts. Here's the convenient, easy, on-the-job way to apply the BEST Belt Dressing made. There's no waste.

33% MORE BELT DRESSING

gives up to 5 times the "mileage".

Guarantees slip-free operation for all belts. Lasts up to 5 times longer than other spray dressings. Keeps belts pliable, moisture proof. A very little goes a long way. CLING-SURFACE is the ECONOMICAL Belt Dressing.

Write for our generous trial offer

CLING-SURFACE CO.
1045 NIAGARA ST. • BUFFALO, NEW YORK

For more details circle NED-816 D7 on enclosed inquiry slip

Are you SURE your SWITCHBOARD MATTING is genuine . . . SAFE?

We have for many years, made a specialty of SWITCHBOARD MATTING. It meets A.S.T.M. Standards for protective value and it's priced right on a price list you can easily read. Our Switchboard Matting is carefully compounded and controlled to insure positive protection. Each run is tested by an independent laboratory for dielectric strength. Specify "Buffalo" and be sure!

SHEET and SLAB RUBBER, TOO!

WRITE for our interesting E-Z to read price list. It will save you money — make you money!

RUBBER JOBBERS INVITED
BUFFALO WEAVING & BELTING COMPANY
210 CHANDLER ST., BUFFALO 7, N. Y.

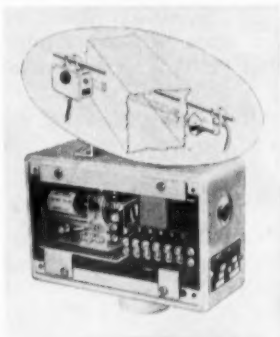
For more details circle NED-817 D7 on enclosed inquiry slip

LETTERING TEMPLATE
has latest drafting symbols

Revised plastic lettering template has latest symbols for draftsmen and engineers, conforming to recent changes in military and industrial standards. The No. 35 template contains full capital alphabet and numerals with extra symbols for zone blocks, delta and surface roughness, cutting plane arrowhead and circles with marked quadrants for 3/8, 1/2 and 5/8-in diameter. Corners are rounded to give 1/4, 1/2, 3/4 and 1-in. radius arcs of 90 degrees. Drawing edges are tapered. Finger relief at edges facilitates lifting. Made by **E. F. Twomey Co.**, Dept. NE, 728 W. Tenth Pl., Los Angeles 15, Calif.

For more details circle NED-818 D7 on enclosed inquiry slip

SMOKE ALARM
electric eye monitors burner



Suited for use with unattended heating plants, type SM1 electric eye smoke alarm can be set to shut down an oil burner when smoke continues more than a minute or so. It also sounds an alarm to warn of condition. Device thus permits legal short-duration smoke each time the burner recycles, but prevents excessive smoke due to improper operation of burner. It consists of lamp unit and photocell which are readily mounted in the smoke duct or stack. Made by **Photobell Co.**, Dept. A, 43 Vesey St., New York 7, N. Y.

For more details circle NED-819 D7 on enclosed inquiry slip

FILLER CANS
four sizes for gasoline and oil

Seamless drawn, dome-shaped shell with double-seamed bottom and no top or side seams are featured in line of galvanized oil and gasoline filler cans. Dome-shaped shell prevents water and dirt from settling on the top. Cans are made of 26-gage galvanized steel in 1, 2, 2½ and 5-gal sizes. Made by **Eagle Mfg. Co.**, 2545 Charles St., Wellsburg, W. Va.

For more details circle NED-820 D7 on enclosed inquiry slip

ADAPTABLE TO A WIDE VARIETY OF LOADS

Belleville Springs

SOLVE SPRING PROBLEMS OF HIGH LOADS IN LIMITED SPACE . . .

This useful type of spring may be the answer to your need where space and load requirements are a problem. Made to any diameter or thickness—can be stacked in series, parallel, or parallel-series, or as an "Energy *Cartridge". The experience of our engineers is available in a pamphlet "Belleville Washers". Write for your copy.

*Reg. U.S. Pat. Off.

ASSOCIATED SPRING CORPORATION

8717 © 1957 A.S.C.

General Offices: Bristol, Connecticut

For more details circle NED-821 D7 on enclosed inquiry slip

Qwik Change

with PACKAGED Motor Starter PARTS!

NEW PUSH BUTTON KIT

EASY to Identify
EASY to Buy
FASTER to Install

OTHER KITS: Selector Switches, Interlocks, Replacement Parts, Contacts, Coils, Overload Relays

Write for Bulletin 9999. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-822 D7 on enclosed inquiry slip

Dockson GOGGLES

Model 96—Our new Welder's Goggle for use over prescription glasses.

PROTECTION with COMFORT

DOCKSON'S complete line of goggles offers the finest, scientifically designed protection at minimum cost. Their many outstanding features and unusual comfort have earned them top preference in industry.

Write for complete catalog and name of distributor nearest you.

Model 60—Monelite Chippers Goggle.

Model 76—Cover-Spectacle Welding Goggle.

Model 40—Popular Spectacle Goggle.

Model 492—Plastic Frame Welding Goggle.

Dockson CORPORATION
3839 WABASH • DETROIT 8, MICH.

For more details circle NED-823 D7 on enclosed inquiry slip

Snap-on*

INDUSTRIAL ROLL-CAB

Here's a workshop on wheels for busy maintenance men. It's big and ruggedly built with plenty of tool storage space, bins for small parts and 45-inch by 24-inch illuminated top for bench work.

Rubber-tired wheels give mobility while two jack brakes provide steadiness when needed. Drawers slide without binding or sagging. Wiring for power tools is carried in armor cable.

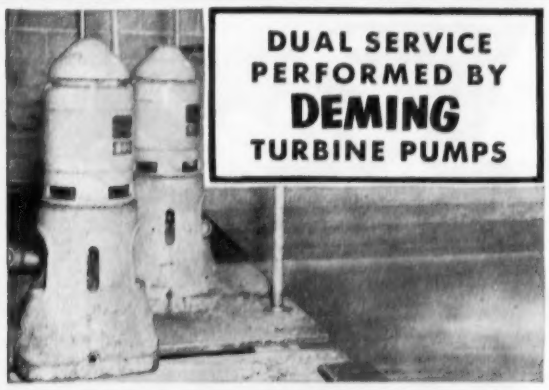
Put your mechanics on wheels with the *Snap-on* Industrial Roll-Cab . . . keeps all his tools at his finger tips any place in the plant.

*Snap-on is the trademark of Snap-on Tools Corporation.

SNAP-ON TOOLS CORPORATION
8110-D 28th Avenue • Kenosha, Wisconsin

Snap-on Tools FOR ALL INDUSTRY

For more details circle NED-824 D7 on enclosed inquiry slip



DUAL SERVICE PERFORMED BY **DEMING** TURBINE PUMPS

Used for Processing and Water Supply

The two Deming Vertical Turbine Pumps illustrated are operated independently, or together, as conditions require. Their dual service is pumping pure cool water for processing operations and for air conditioning the plant.

This is an example of the wide adaptability of Deming Vertical Turbine Pumps. Units are available in a wide range of sizes with motors from 1 to 300 H.P. Capacities range to over 3,500 g.p.m.

Write for Bulletin 4700

THE DEMING COMPANY
520 Broadway • Salem, Ohio

For more details circle NED-825 D7 on enclosed inquiry slip

Start where you please— SAW with ease . . .

KETT *Panel Master* HEAVY DUTY SAW

Zips through aluminum, Fiberglas, plastics, plastic laminates, even 16-gauge steel with minimum effort, maximum speed. Its performance is outstanding on metal laminates such as Mirawal, Metalwal, Met-L-Wood and Amorply.

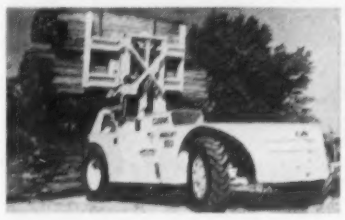
- Rugged 2-in. diameter saw blades give full ⅜" depth of cut.
- Powered with heavy-duty industrial-type 110 volt AC/DC portable 5/16" capacity electric drill motor. Ball bearing equipped drive for smoother operation.
- Leaves accurate, smooth milled edge that requires no sanding or finishing.

Write for Catalog E-16

THE KETT TOOL COMPANY
5051 Madison Road
Cincinnati 27, Ohio

For more details circle NED-826 D7 on enclosed inquiry slip

OUTDOOR FORK TRUCK operates through mud and snow to lift loads up to 35,000 lb



Heavy lifting and tiering work around steel mills, lumber yards and construction sites is efficiently performed by the Clarklift Y-350 outdoor fork lift truck. The 35,000-lb capacity unit has a power-shifted, four-speed transmission coupled with a torque converter and a 404-cu in., six-cylinder Hercules gasoline engine. It operates through mud and snow and over rough terrain.

Driver sits above left front fender for clear view of load and operates direction selector levers and lift-lower-tilt levers located on steering column. Power steering and air service brakes are standard. Hood slides back on rollers to expose engine for servicing. Specifications include 26-fpm loaded lift speed, upright underclearance of 14 in., turning radius of 231 in., 155-in. wheelbase and maximum speed of 16 mph forward and reverse. Made by **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

For more details circle NED-827 D7 on enclosed inquiry slip

POWER BAND SAW uses high speed steel saw band, handles 12 x 12-in. cut-off work

Sufficient power and rigidity to use Demon high speed steel saw bands are built into model C-12 heavy duty cut-off saw. Easily set up saw will handle 12 x 12-in. work weighing 1500 lb. Accuracy of cut is within 0.002-in. per inch of diameter. Cutting rate is under 2 minutes for a 5-in. round of mild steel, 5 minutes for 3½-in. square of 18-8 stainless and 19 minutes for 11¾-in. round of hardened tool steel.

Hydraulic system that provides band tensioning pressure also controls feed and raises sawing head. Solenoid-operated hydraulic mechanism locks head in position if power is interrupted for any reason. Machine uses a saw band 1 in. wide and 129¼ to 132 in. long, powered by 1½-hp motor through four-step cone pulleys. Blade speeds are 90, 125, 180 and 250 fpm. Recirculating coolant system is built into base of machine. A screened chip drawer is also provided. Machine can be equipped with a 10-ft loading conveyor. Made by **DoALL Co.**, 256 N. Laurel Ave., Des Plaines, Ill.

For more details circle NED-828 D7 on enclosed inquiry slip

AMEs *is preferred* when comparison is made

For fast, accurate measurements, Ames Dial Comparators are the choice of quality control men everywhere. You get definite, impersonal readings directly from the dial. There's no guesswork or figuring.

Special comparators are available for measuring resilient materials such as rubber, paper, etc., and for measuring non-yielding materials such as sheet metal, glass and plastic. Write for complete details.

Representatives in principal cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.

MANUFACTURERS OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

For more details circle NED-829 D7 on enclosed inquiry slip

BIG SOCKET SCREWS

Cleveland can fill your order promptly

Cleveland has the facilities to give prompt service on large diameter socket head cap screws. We regularly stock 1¼-7 and 1½-6 in lengths through 12 in. For other list sizes from 1⅛ to 3 in. diam. through 12 in. length, we stock headed blanks ready for threading to your specifications.*

Made of specially heat treated alloy steel, these Cleveland large diameter socket screws have upset forged heads and fully formed fillets under the head. These features increase fatigue and tensile strength, put extra fastener muscle into your assemblies.

Write for our new folder, "Cleveland Large Diameter Socket Head Cap Screws." Cleveland also supplies large diameter hex head cap screws.

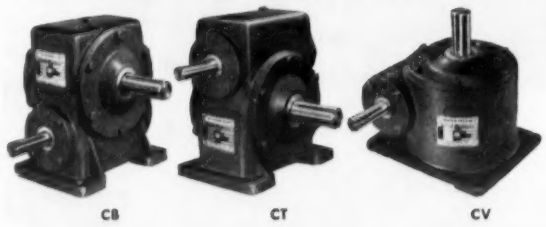
*Diameters over 3 in., lengths over 12 in., available on special order.

THE CLEVELAND CAP SCREW COMPANY
4444-18 Lee Road, Cleveland 28, Ohio
Warehouses: Chicago • Philadelphia • New York • Providence • Los Angeles

For more details circle NED-830 D7 on enclosed inquiry slip

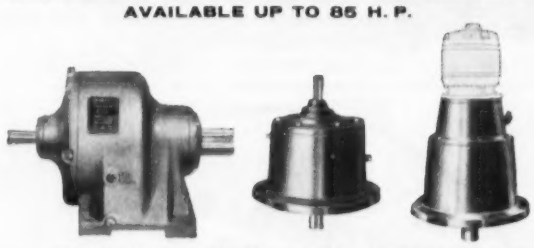
VERSATILE PERFORMANCE for your BIG JOBS, too, in SPEED REDUCTION

WINSMITH WORM GEAR REDUCERS
AVAILABLE UP TO 34 H.P.



CB CT CV

WINSMITH DIFFERENTIAL REDUCERS
AVAILABLE UP TO 85 H.P.

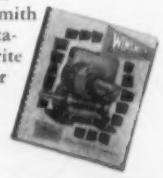


HORIZONTAL FLANGE MOUNTED VERTICAL MOTORIZED

● The stock line of Winsmith Speed Reducers offers a wide variety of rugged, heavy duty units designed to handle *all your* speed reduction problems involving high input horsepower. Worm gear reducers are available in horizontal or vertical types, with right angle or parallel shafts . . . worm on top or worm on bottom. The Winsmith Differential line offers equal versatility with three stock types—Horizontal, Flange Mounted, or Vertical Motorized.

It will pay you to standardize on Winsmith — the most complete line for all your speed reduction jobs — big or small — from 85 h.p. down to 1/100 h.p.

COMPLETE ENGINEERING DATA on hundreds of types and sizes of Winsmith reducers is included in Catalog #155 — write for your copy today.



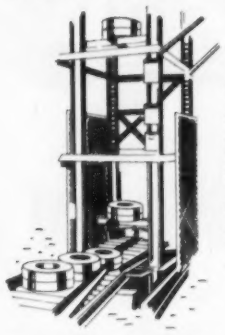
WINSMITH SPEED REDUCERS

WINSMITH, INC.
119 Eaton Street, Springville, (Erie County), N.Y.

For more details circle NED-831 D7 on enclosed inquiry slip

Mathews ELEVATING CONVEYERS

ENGINEERED TO SERVE PRODUCTION



One of the many widely applied types of conveying equipment designed and built by Mathews Conveyer Company. The complete line of Mathews-designed, Mathews-built Conveyers includes the following:

CHAIN CONVEYERS • LIVE ROLLER CONVEYERS • WHEEL CONVEYERS
BELT CONVEYERS • TROLLEY CONVEYERS • ROLLER SPIRAL CONVEYERS
PORTABLE CONVEYERS • SPECIAL CONVEYING MACHINERY

MATHEWS CONVEYER COMPANY . . . ELLWOOD CITY, PENNA.
MATHEWS CONVEYER COMPANY WEST COAST . SAN CARLOS, CALIF.
MATHEWS CONVEYER COMPANY, LTD. . PORT HOPE, ONTARIO

MATHEWS
Fifty Years of Leadership in Mechanized Handling

▲ For more details circle NED-832 D7 on enclosed inquiry slip ▲

MASONRY DRILLING MACHINE
drills 2-in. holes up to 3 ipm

Equipped with a Molco water swivel to cool the self-sharpening diamond bit, this portable drilling machine will make 2-in. diameter holes at up to 3 ipm in concrete, brick, granite or other hard masonry materials. Holes as small as 3/16-in. are easily drilled. Flexible shaft drive allows freedom for drilling in any position. Operation is on 110 v. Available from **Powder Tool Fasteners, Inc.,** Dept. N, 5349 W. Madison St., Chicago, Ill.

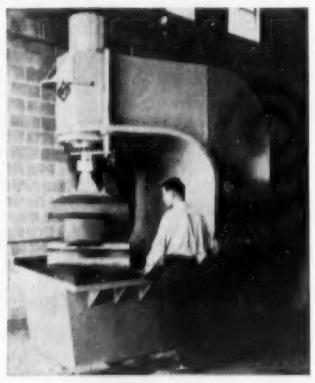
▲ For more details circle NED-835 D7 on enclosed inquiry slip ▲

WELDING ELECTRODE HOLDER
300-amp model is fully insulated

Delivering up to 300 amp on a heavy duty cycle when connected to a No. 00 cable, Tong-Grip electrode holder has slip-on insulator. There is no current in hinge pin or upper tong. Wedge cable connector assures good connection, cool operation and long cable life. Tool can be disassembled by hand in a few seconds for servicing. Made by **Martin Wells, Inc.,** 5886 Compton Ave., Los Angeles 1, Calif.

▲ For more details circle NED-836 D7 on enclosed inquiry slip ▲

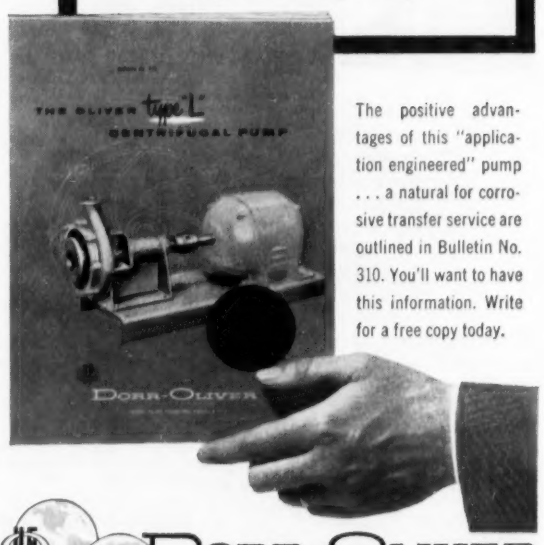
FORCING PRESS
for many forming and bending uses



Pressures from a gentle pinch to a full-capacity 200-ton squeeze can be applied by this gooseneck type hydraulic forcing press. It is suited for virtually any heavy metal forming or bending operation, loading from any position within a 300-degree arc. Controls and gages are conveniently located. Downward speed is 140 ipm up to 14 tons counter pressure and 7¼ ipm between 14 and 150 tons. Return speed is 250 ipm. Welded steel frame houses a two-stage pump, oil reservoir and hydraulic system. Table has T-slots for anchoring work and tools. Made by **Fjellman American, Inc.,** Joliet 1, Ill.

▲ For more details circle NED-837 D7 on enclosed inquiry slip ▲

for corrosive transfer service . . . an outstanding alloy metal pump



The positive advantages of this "application engineered" pump . . . a natural for corrosive transfer service are outlined in Bulletin No. 310. You'll want to have this information. Write for a free copy today.

DORR-OLIVER
INCORPORATED
WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT
STAMFORD • CONNECTICUT • U.S.A.

▲ For more details circle NED-833 D7 on enclosed inquiry slip ▲

WHAT IS YOUR NAILING PROBLEM?

FMC HAS THE ANSWER

Many of the problems of industrial nailing which are troublesome to you today, may have already been successfully studied and solved by FMC nailing machine design and application engineers.

Problems arising from countless combinations of woods, materials, nailing patterns, speeds, space, manpower, pressures, feeds, mechanics, hydraulics and other variables have been resolved by our engineering department. From hundreds of case histories FMC can counsel with you on all phases of automatic nailing.

Hand us your nailing problem. We believe we can give you a successful FMC answer to it from the scores of types, sizes and models of FMC nailing machines which have been built and are in successful operation by firms like yourself—who once also had a nailing problem!

WRITE, giving us full details—or request Bulletin.

FOOD MACHINERY AND CHEMICAL CORPORATION
NAILING MACHINE SECTION
RIVERSIDE, CALIFORNIA

Food Machinery and Chemical Corporation; Nailing Machine Section, Riverside, Calif.
Please send information on Nailing Machine Checked
☐ General Purpose Nailer ☐ Pallet Maker ☐ Multiple Spindle Drive Screw Driver
NAME_____ COMPANY_____
ADDRESS_____
CITY_____ STATE_____

▲ For more details circle NED-834 D7 on enclosed inquiry slip ▲

ELECTROLIFT solves our hoisting problems

Wide selection of dependable worm drive hoists with capacities from ¼ to 10 tons . . . compact . . . close headroom . . . precise control. Consult your local ElectroLift representative or write for complete catalog.

WORM DRIVE ELECTROLIFT HOISTS

4657

204 SARGEANT AVE., CLIFTON, N. J.

▲ For more details circle NED-838 D7 on enclosed inquiry slip ▲

INDUSTRY REPORTS ON WALKER-TURNER

One of the Walker-Turner radial drills that are used in the Detail Tooling Department and the Template Fabrication Department. They provide efficient, fast means for drilling a number of holes in large castings, with a minimum of set-up time.

At North American Aviation, Columbus, O. . . .

W-T Radial Drills in Constant Use For 6 Years . . . And Still Going Strong!

In the Template Fabrication Department of North American Aviation, two W-T radial drill presses are utilized in a production-line operation for making all router jigs. *These two units have been in constant use for six years, and have been overhauled only twice.*

In this set-up, positioning holes are drilled in the jig on the first press. Then the work is passed on to the second Walker-Turner radial drill, where operator drills or countersinks holes as necessary. It's fast, efficient, convenient.

The Company has found the versatility, rugged construction, and low maintenance of other Walker-Turner "Light-Heavyweights" also make them ideal for many tooling and production jobs in other departments.

Now—A New, Improved
WALKER-TURNER RADIAL DRILL PRESS
that's even stronger, more versatile, easier to operate.

With its all-new, heavy-duty head assembly, the improved Walker-Turner radial drill press offers all the ruggedness, versatility and efficiency of larger machine tools costing several times as much.

Ask your W-T distributor to demonstrate this new line of "Light-Heavyweights." He's listed under "Tools" in your telephone directory. Or write for his name and literature.

Available in 24 models with either 4¼" or 6" spindle travel.

walker-turner
WALKER-TURNER
Division of Rockwell Manufacturing Co.
Dept. WD-45, 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-839 D7 on enclosed inquiry slip ▲

BREAK the Coating Barrier

PROVE IN YOUR OWN PLANT

. . . tough, elastic GACO N-700 Neoprene protects where other coatings fail . . .

Protect plant structures and equipment against corrosive fumes, splash, and spray with GACO N-700 liquid neoprene maintenance coating. GACO N-700 gives lasting protection at *lower* applied cost . . . self cures to form a tough elastic protective coating. Stop coating and recoating with ordinary paints—break the coating barrier—use GACO N-700 for the really tough corrosion situations.

Here's proof that GACO N-700 provides protection under severe corrosive conditions:

A chemical processing plant in Northern New Jersey found that ordinary maintenance paints lasted less than six months because of highly corrosive fumes plus salt ocean air. GACO N-700, used for exterior coating of storage tanks, pipe lines, ladder and steel work, *is still serviceable after five years.*

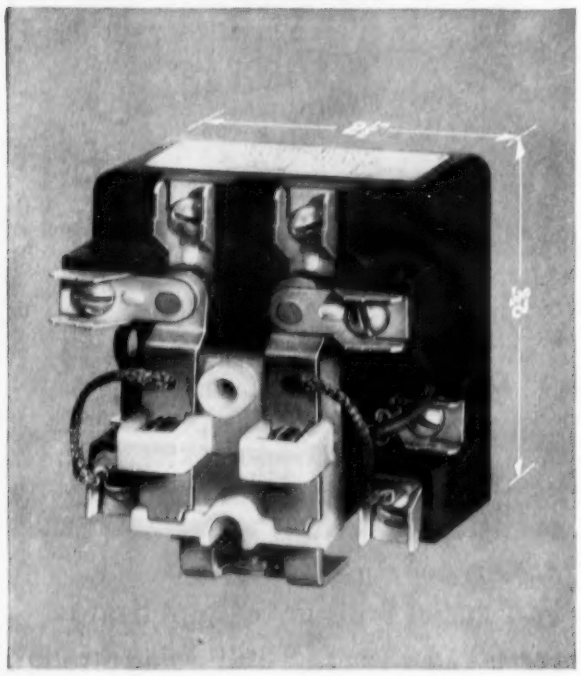
There's a GACO protective coating for every industrial need that gives results far surpassing those provided by ordinary coatings. Write for details.

THE MARK OF CORROSION PROTECTION

GATES ENGINEERING COMPANY
Wilmington 99, Delaware
PIONEER LEADER IN PROTECTIVE COATINGS

Authorized Distributors in principal cities U.S.A. • Australia • Belgium • England • Finland • France • Israel • Japan Norway • Okinawa • Philippine Islands • Puerto Rico • Sweden. In Canada: Gaco Products Ltd., Brantford, Ontario.

▲ For more details circle **NED-840 D7** on enclosed inquiry slip ▲



10-amp relay fits in 6.5 square inches

THAT'S SPACE SAVINGS! When relay mounting space is tight, and long life is a must, Type Z is your answer. It outlives many millions of operations, yet fits an area 2½" x 2⅝".

Not only is the Type Z small, but both coil and core are easily accessible from the front. No provision for disassembly space is needed.

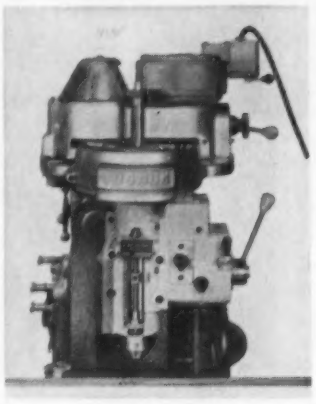
This powerful little relay meets U. L. Standards for 300-volt operation. Silver contacts are rated for continuous 10 amps at 300 volts. It is a 2-pole relay with double-pole, double-throw contacts and can be fitted for either a-c or d-c use.

Booklet B-7073 contains information on the Type Z and several other Westinghouse relays. Send your request to: Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-30271

YOU CAN BE SURE...IF IT'S
Westinghouse

▲ For more details circle **NED-841 D7** on enclosed inquiry slip ▲

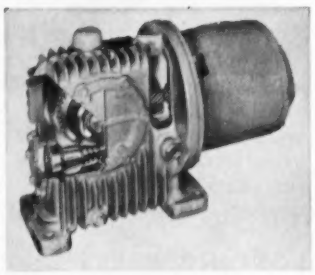
MILLING HEAD
has infinite speeds and feeds



Infinite speeds from 100 to 3600 rpm and infinite feeds from 0.0 to 0.012-in. per revolution, both up and down, are available in the model 120 milling head. All automatic feed controls are front positioned for rapid operation in milling, drilling and boring. Speeds are offered in 100 to 600 rpm and 600 to 3600 rpm ranges. Rate of feed can be selected while machine is running, standing still or under load, and disengagement is automatic or by hand. Other features are feed thrust of 800 lb with safety overload clutch and 5-in. travel of 12½-in. long quill. Made by **Rusnok Tool Works,** Dept. N, 4840 W. North Ave., Chicago 39, Ill.

▲ For more details circle **NED-842 D7** on enclosed inquiry slip ▲

RIGHT-ANGLE GEARMOTORS
four sizes for up to 15-hp motors



Both standard extended shaft and shaft-mounted models are offered in line of right-angle worm gearmotors. Compact units use double-enveloping worm gearing and standard NEMA D-flange motors. Four currently available sizes are available with or without fractional to 15-hp motors. Range is being extended to 40 hp. All are avaliable in 28 standard output speeds from 6.25 to 525 rpm in both models. Double reduction unts have housings with internally reinforced walls and cooling fins. All teeth within an arc of 45 degrees on the gear are in simultaneous contact with threads on the worm. Made by **Michigan Tool Co.,** Cone-Drive Gears Div., 7204 E. McNichols Rd., Detroit 12, Mich.

▲ For more details circle **NED-843 D7** on enclosed inquiry slip ▲

Magnesium Handling Equipment

Brooks & Perkins Inc. — Lightness in weight, strength, safety, and freedom from rust and corrosion are some of the advantages offered by magnesium construction in complete line of Pusharound handling equipment described in 12-page illustrated catalog. Standard and special-purpose equipment is available for practically any handling need. Specs are given on hand, platform, transfer, shelf, bin and garment trucks and on racks, mobile cabinets and dollies.

▲ For more details circle **NED-844 D7** on enclosed inquiry slip ▲

DRAVO **COUNTERFLO**

HEATER

The new Dravo *Counterflo* forced-air space heater has these outstanding features:

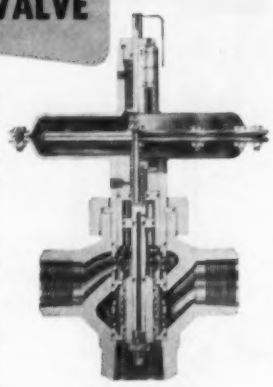
New Discharge Plenum
New Airfoil Combustion Chamber
New Induced Draft Firing
New Pyrojet Burner
New Low Speed Fans

For complete information on the all-new Dravo *Counterflo* heater, write for Bulletin 564. Dravo representatives are located in principal cities.

DRAVO
CORPORATION
Pittsburgh 22, Pa.

▲ For more details circle **NED-845 D7** on enclosed inquiry slip ▲

THREE-WAY THREE-POSITION CONTROL VALVE



Here's the solution to many of your flow control problems. Designed especially for service as a manifold valve in automatic systems, the GOT Type "CPC" Valve is extremely simple in design and construction, with all parts accessible for cleaning, repair or replacement without removing the valve body from the line. The inner valve is pressure-balanced for positive operation, and gives guaranteed bubble-tight closure against gas or liquids. The GOT-developed "huddling chamber" design protects valve seat and disk against cutting, and permits re-sizing without seat and disk replacement. For complete information, write for Catalog No. 256 MVC.

Garrett Oil Tools, Inc.
P. O. BOX 2427 • LONGVIEW, TEXAS
DIVISION OF U. S. INDUSTRIES, INC

▲ For more details circle **NED-846 D7** on enclosed inquiry slip ▲

ONLY NEW HALLOWELL *ERECTOMATIC* STEEL SHELVING gives you all these plus features

- Fast assembly
- Fast shelf change or addition
- Straight-in, straight-out shelf change
- Independent shelf positioning
- Full use of shelf area
- Common side panels and posts
- Beaded posts and flanged shelves
- Full-depth shelf supports
- 4 classes of shelves

Investigate Hallowell ERECTOMATIC® before buying shelving. You'll find it easy to assemble and rearrange, economical to maintain. It is made of prime steel, is phosphate coated and finished in SPS green baked-on enamel. Other colors are available. Hallowell ERECTOMATIC is sold through leading industrial distributors and shop equipment dealers. Write us for complete information. Hallowell Shop Equipment Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
HALLOWELL SHOP EQUIPMENT DIVISION SPS
JENKINTOWN PENNSYLVANIA

▲ For more details circle **NED-847 D7** on enclosed inquiry slip ▲

POR-ROK (POUR ROCK)

Fast Setting Cement

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN **30 MINUTES!**

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

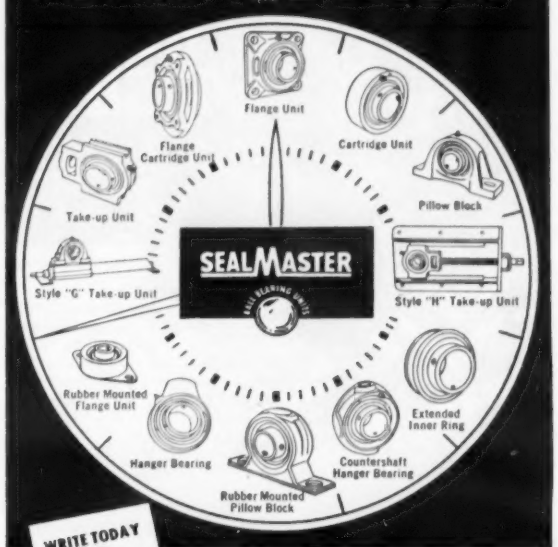
Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO
SINCE 1927

▲ For more details circle **NED-848 D7** on enclosed inquiry slip ▲

ASSURED BEARING PERFORMANCE
ROUND THE CLOCK!



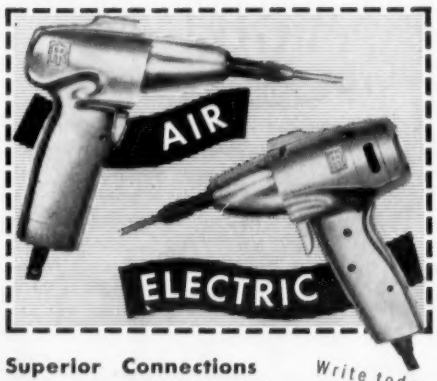
WRITE TODAY FOR BULLETIN # 454

BEARING DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS

For more details circle NED-849 D7 on enclosed inquiry slip

Make faster, better electrical connections with

WIRE WRAPPERS



Superior Connections
More Compact Assemblies
Greater Uniformity
Lower Costs

Write today for a demonstration in your plant by an I-R wire wrapping specialist.

Ingersoll-Rand
8-552 11 Broadway, New York 4, N.Y.

For more details circle NED-850 D7 on enclosed inquiry slip

for production brazing...

LUCAS MILHAUPT
SILVER BRAZING
PREFORMS

RINGS
Round Wire, Machine Wound, Mandrel Wound.

ODD SHAPES
Any size or form.

WASHERS
Edgewound and Blanked.

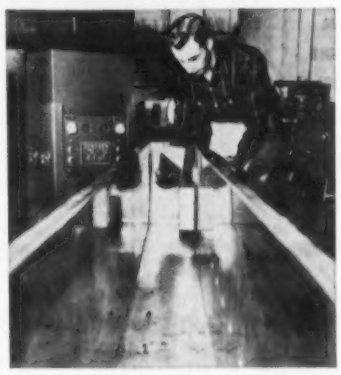
Preforms in any size or shape that.
1. End Wasted Time In Placing Silver Solder in position for brazing.
2. Speed Assembly Work.
3. Eliminate Rejects.
4. Meter Silver Solder to Flow In and Around Joints.

FREE 16 page booklet gives you all the facts on better brazing with preforms. Write Today!

LUCAS MILHAUPT Engineering COMPANY
5070 So. Lake Drive, Cudahy, Wis.

For more details circle NED-851 D7 on enclosed inquiry slip

ULTRASONIC CLEANING TANK for conveyorization or long items

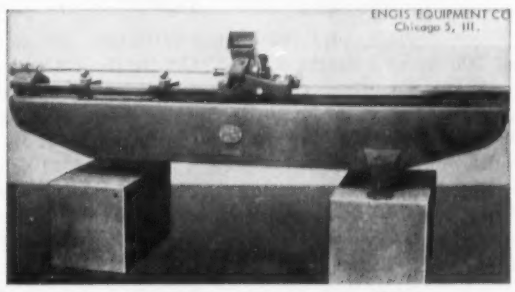


Measuring 10 ft long, 9 in. wide and 18 in. deep, the S-1080 cleaning tank can be used for conveyorization or cleaning of long items by the ultrasonic process. It is built of stainless steel and has a working fluid volume of 75 gal of detergent, solvent or other cleaning solution. Sixteen type B-36 transducers, with an effective cleaning area of 96 x 7½ in., are installed along one side of the tank. They are operated from one model APT-400-B 2-kw Sonogen ultrasonic generator and are enclosed in stainless steel. Teflon-gasketed fittings for bulkhead mounting eliminate need for wires or cables in the tank. Made by **Branson Ultrasonic Corp.**, Dept. NED, 37 Brown House Rd., Stamford, Conn.

For more details circle NED-852 D7 on enclosed inquiry slip

LENGTH MEASURING MACHINES measure to 0.0001-in. at 30 ft and to 0.00005-in. direct at 10 ft

Precise measurement of lengths and diameters beyond the size of the longest practical gage block is possible with Watts length measuring machines. Type A,



illustrated, is available for 80 to 120-in. lengths and consists of a measuring head which contains a 4-in. precision glass scale with projector reading directly to 0.00005-in. and repeating accuracy of 0.00001-in.

High power microscope sets measuring head to the master scale's 4-in. graduations. Bed of machine contains optical compensators so that any graduation tolerance in the master scale can be fully compensated. Type B, for measuring to 0.0001-in. at 30 ft, employs sectional bed and precise steel master tape under constant tension. Work supports, coarse external scale and support plates complete the standard equipment. Distributed by **Engis Equipment Co.**, Dept. RR10, 431 S. Dearborn St., Chicago 5, Ill.

For more details circle NED-853 D7 on enclosed inquiry slip

Lesto PORTABLE-HEAVY DUTY ELECTRIC HAND SAW

• SAWS LIKE A DREAM
• PRECISE AS A SWISS WATCH
• FINEST BALANCE
• LEAST VIBRATION

8 BALL AND ROLLER BEARINGS for all moving parts

Turn it on, guide it . . . a Lesto saw will do the rest. Operating at a rate of 2300 strokes a minute, LESTO cuts finer than sandpaper-smooth, reaches hard-to-get-at-places.

VERSATILE! RUGGED! POWERFUL!

The LESTO Saw has many talents. With its 20 different blades, it cuts hardwood, softwood, plywood, formica, pressboard, plastic, metal, abrasives. It's a rip, cross-cut, coping, keyhole, band, scroll and jig saw—7 saws in 1!

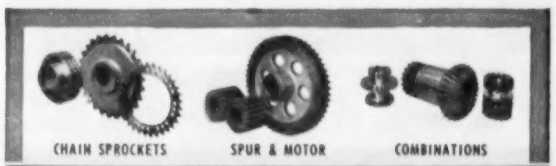
LESTO has a PLANETARY GEAR—the best known mechanism to convert the rotary motion of the motor to the reciprocating motion of the blade.

Service and Parts Available Nationally—SAWS • DRILLS • SHEARS • NIBBLERS

See Your Industrial Distributor or Write:

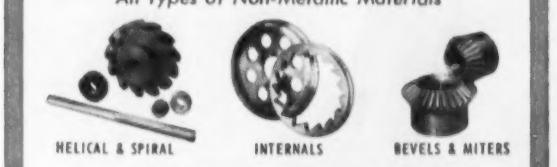
VICTOR J. KRIEG, Inc.
PRECISION-MADE POWER TOOLS FOR UNSURPASSED PERFORMANCE
611 BROADWAY, NEW YORK 12, NEW YORK

For more details circle NED-854 D7 on enclosed inquiry slip



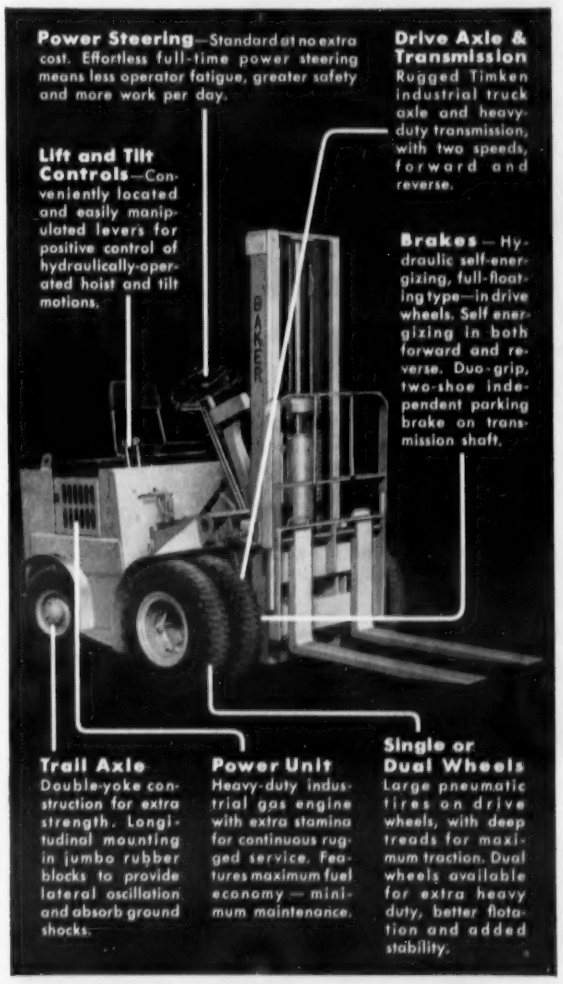
GREAVES GEARS
Manufactured to your specifications or samples

GEARS • SPROCKETS • RACKS • LEAD SCREWS
Cast Iron, Steel, Bronze — Plain or Heat Treated
All Types of Non-Metallic Materials



For prompt estimates, write or wire TODAY!
GREAVES MACHINE TOOL CO.
2302 Eastern Avenue Cincinnati 2, Ohio

For more details circle NED-855 D7 on enclosed inquiry slip



BAKER announces a new
PNEUMATIC-TIRED FORK TRUCK

This Baker FGF-40, 4,000-lb. YARDLOADER, first in the new line of Baker pneumatic-tired gas fork trucks, has many new design features for greater maneuverability and more dependable performance. It is *fast*—top speed with load, 8.6 mph. It is *compact*—only 48 inch wheelbase, and minimum overhang—*and only 79 inch turning radius.* Low center of gravity makes this possible without sacrificing stability.

Absence of cowl provides maximum visibility. Power steering and many other driver conveniences make it one of the easiest handling fork trucks—and one of the safest. Full 130-inch lift, with single or dual cylinder. Truck-loading mast available with 110-inch lift and 71-inch overall height . . . For complete information ask for Bulletin 1382.

Baker industrial trucks
THE BAKER-RAULANG COMPANY
1245 WEST 80th STREET • CLEVELAND 2, OHIO
A Subsidiary of Otis Elevator Company

For more details circle NED-856 D7 on enclosed inquiry slip

The Powerful **NEW** Hi-Torque

HANDEE®

FOR DIE TOUCH-UP WORK

A COMPLETE WORKSHOP IN YOUR HAND

Grinds, polishes, cuts, saws, engraves, cleans and burnishes. Can be used for working in wood, hardened steel, non-ferrous metals, glass, ceramics, etc. A big time-saving tool for light production grinding and touch-up for all shops, tool and die plants, foundries, etc.

The new Hi-Torque Handee is packed with speed (25,000 r.p.m.) and power. Perfectly balanced, cool running, fits the hand for pencil point precision in delicate work. New chuck lock design for quick change of accessories. Available in 110 or 220 volt, 25 to 60 cycles.

with 6 accessories $23.95

With every type of cutting tool in metal case $32.95

Write for Catalog

Chicago Wheel & Mfg. Co.
Dept. NED-4
1101 West Monroe Street
Chicago 7, Illinois

For more details circle **NED-857 D7** on enclosed inquiry slip

TAYLOR

BI-THERM* DIAL

THERMOMETER

Easy Reading: A quick, reliable temperature indicator, ideal for applications where an easy-reading, low cost, direct connection thermometer is desired. Accurate to ±1% of scale, because it is unaffected by ambient temperatures. Silicone-damped to prevent pointer chatter and improve speed of response. All-welded stainless steel construction with hermetically sealed bezel. 3" or 5" dials; 4", 6", 9" and 12" stems. Separable wells, ¾" and 1". Range limits minus 40° to plus 750°F. Ask your Taylor Field Engineer, or write for **Bulletin 98267.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

*Trade-Mark

Taylor Instruments!
MEAN ACCURACY FIRST

For more details circle **NED-858 D7** on enclosed inquiry slip

SIMPLEST 4-WAY CONTROL

with NEW Schrader®
Lockdown Foot Pedal Air Valve

You can give your operator effortless, positive four-way control with this newly-designed pedal valve. It's ideal for use with double acting air cylinders and other reversing applications. The rocker-type pedal locks open or closed until tripped to the opposite position.

Flow capacities range from 150 to 375 cubic feet per minute, at 100 psi inlet pressure. Port sizes range from ¼" to ¾". Write for free Schrader catalog.

A. SCHRADER'S SON
Division of SCOVILL
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

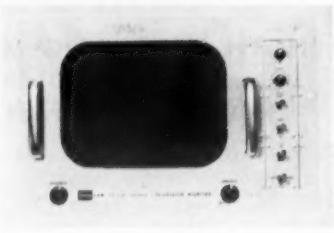
For more details circle **NED-859 D7** on enclosed inquiry slip

FINNED TUBULAR HEATERS
in 2000 to 8000-w ratings

Fin of this tubular heater is spirally edge-wound from continuous steel strip, then silver brazed to sheath surface for good heat transfer. Heaters are designed for duct, space and baseboard room heaters and ovens. They can be formed onto one or a series of hairpin bends. Bushings are supplied in 1 or 1⅛-in. diameter with ¾ or ⅞-in. machine thread. Standard 2 and 3-kw heaters are offered in either 115 or 230 v. Higher wattages in 230 v only can be used two in series on 460 v. Standard ratings range from 2000 to 8000 w. For over 450° F terminal end temperatures, hermetically sealed terminals with ceramic-to-metal seals are used. Made by **Vulcan Electric Co.,** Dept. P, 85 Holten St., Danvers 7, Mass.

For more details circle **NED-860 D7** on enclosed inquiry slip

INDUSTRIAL TELEVISION MONITOR
designed for remote viewing use



Excellent picture quality is assured in this model ARM-14 closed circuit 14-in. television monitor by a precision deflection system and a broadband video amplifier. Band width is in excess of 8 megacycles, and horizontal deflection is better than 600 lines. Single coaxial cable is used between the camera and the monitor. It can be placed up to 1000 ft from camera without an amplifier, and further if a line amplifier is used. It is available in a cabinet or in a 19-in. rack mountable chassis. Latter will accept any three remote control panels for pan tilt, iris focus, three-lens turret or camera control accessories. Made by **Kintel,** 5725 Kearny Villa Rd., San Diego 11, Calif.

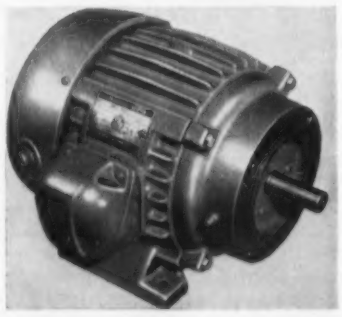
For more details circle **NED-861 D7** on enclosed inquiry slip

JANITOR'S CART
trash bag is easy to remove

Spring steel frame, flame-resistant bag and simple tension bag-holder are features of this Happy John's janitor cart. Bag can be placed on cart in seconds without hooks, eyelets or ties. The 12 x 18 x 32-in. size permits it to move through narrow aisles and between desks and machinery. Handle and rear wheels facilitate handling up and down stairs. Fixtures and pockets hold tools and cleaning supplies. Made by **Can-Pro Corp.,** Dept. NED, 19-31 E. McWilliams St., Fond du Lac, Wis.

For more details circle **NED-862 D7** on enclosed inquiry slip

TOTALLY-ENCLOSED MOTOR
bracket mounts driven equipment



Available in ratings from 1 to 30 hp, type J totally-enclosed motor has NEMA style C bracket with tapped holes for mounting driven equipment. Such features as shock-resistant cast iron frame, ribs for heat dissipation, guarded propeller fan for cooling and self-cleaning, brass slinger to exclude moisture, balanced rotor and purging type Lubriflush lubrication are incorporated Design is also available in explosionproof models. Made by **U. S. Electrical Motors Inc.,** Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.

For more details circle **NED-863 D7** on enclosed inquiry slip

UNWIELDY PARTS HELD TIGHT

At North American Aviation, Inc.

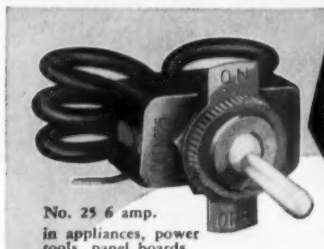
The picture above shows two sizes of dependable Knu-Vise clamps as they are used on a setup designed by North American's tooling specialists. Operation is the assembly of a bulky, hard-to-handle fuselage section of a F-100 Super Sabre.

With speeds faster than sound becoming more and more common, quality control measures and exacting tolerances in aircraft production are vital. That's why positive—fast to grip—quick to release Knu-Vise clamps are so important. Many fixtures are designed for air or oil operated clamps; others, like North American's, for manual operation. Lapeer furnishes a complete line numbering more than 150 models of clamps and pliers. Better investigate this versatility—today. Just write.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS — LAPEER MANUFACTURING CO.
3062 DAVISON ROAD • LAPEER, MICHIGAN
WESTERN DIVISION: 422 Magnolia, Glendale, California • CANADIAN DIVISION: Higginson Engr., Hamilton, Ontario

For more details circle **NED-864 D7** on enclosed inquiry slip



IT PAYS TO USE TOP QUALITY TOGGLE SWITCHES

No. 25 6 amp. in appliances, power tools, panel boards

SPECIFY McGILL® *Levolier*®
TOGGLE SWITCHES

No. 90

No. 29
Available from Electrical Wholesalers

Top quality material, workmanship and the famous Levolier switch design assure you of years of trouble-free performance. Encased in molded phenolic, all Levolier toggle switches are dust and vibration-proof. The complete line offers a choice of wire leads, screw terminals, soldering lugs, or spade terminals on most models. It also includes momentary contact, single, two circuit and three-way models.

Send for Catalog No. 84

McGILL® ELECTRICAL SPECIALTIES

are always a little better and **ALL** *are Underwriters' Laboratories inspected*

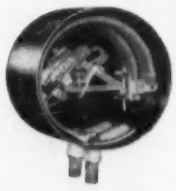
McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

For more details circle **NED-865 D7** on enclosed inquiry slip

MERCOID DIFFERENTIAL PRESSURE CONTROLS

Equipped with HERMETICALLY SEALED Mercury Contacts

TO "MAKE" OR "BREAK" AN ELECTRICAL CIRCUIT ON CHANGES IN THE DIFFERENCE BETWEEN TWO PRESSURES



FOR HIGH PRESSURES
Bourdon Tube Operated

Series BB: Operating ranges from 0-60 psi to 2,500 psi., with sensitivities varying from 0.4" to 50 psi.
Write for bulletin No. 15

FOR LOW PRESSURES
Diaphragm Operated

Extremely sensitive, for air or gas. Series PQ: Operating ranges (inches of water) 6.0" vac. to 6.0" press. (sensitivity .03",) and 30.0" vac. to 30.0" press. (sensitivity 0.1" to 0.02").
Write for Bulletin No. 14

THE MERCOID CORPORATION
4201 Belmont Avenue, Chicago 41, Illinois

For more details circle **NED-866 D7** on enclosed inquiry slip

The Amazing Tyler SPYRAL BLADE

SAWS ANY MATERIAL IN ANY DIRECTION... up or down... right or left...

even in circles!

Fits any standard hacksaw or coping saw frame. Leaves clean, smooth edge without chipping or tearing. Adapter sets available for Delta 14" bandsaws and all Do-All machines.

Hacksaw blades — 29c each in lots of 10 to 49 blades. Prices on larger quantities and other items on request.

See your industrial supply jobber . . . or write to:

TYLER MANUFACTURING CO. 1005 W. Arbor Vitae Ave. Inglewood, Calif.

For more details circle NED-867 D7 on enclosed inquiry slip

NO SLIP GRIP

S.S.White

PLASTIC PLUGS AND CAPS

No greasy, waxy feel to S.S. WHITE Plastic Plugs and Caps! A no-slip grip every time makes these low-cost protective plugs and caps easy as 1-2-3 to install and remove!

S.S. WHITE Plastic Plugs and Caps help guarantee factory-perfect delivery of your product. Threaded openings and connections get rugged protection against damaged threads, dirt, moisture, or leakage due to rough handling. These plugs and caps are "misapplication-proof" . . . non-shredding . . . won't jar loose or pop out . . . are safe for personnel to handle.

Available for immediate delivery in a wide selection of standard sizes — threaded or plain — for your every requirement. For samples and further information, just drop us a line.

S.S.White

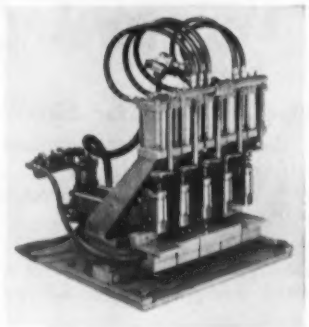
PLASTICS DIVISION

Dept. 7P, 10 East 40th Street, New York 16, N.Y.

Western Office: 1839 West Pico Blvd., Los Angeles 6, Calif.

For more details circle NED-868 D7 on enclosed inquiry slip

AIR-OPERATED STAPLER
in multiple head or single units



All-purpose Duo-Fast air-operated staplers available in either multiple head or single units utilize single-unit frame which is mass-produced without stapling head. Customer selects correct head to handle staple size from six different heads for 5/32 to 9/16-in. staples. Bench units can be assembled in any formation, including a circle. They operate on 40 to 110-psi air, regulated to desired stapling power. Multi-unit machines are fast due to "dump" valve which exhausts air from units simultaneously, in rhythm with stroke. Throat reach is 4½ in. A five-head version is shown. Made by **Fastener Corp.**, 876 W. Fletcher St., Chicago 14, Ill.

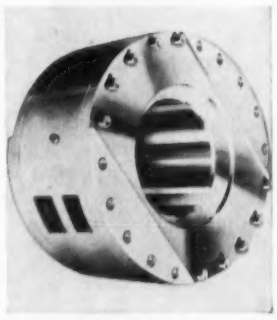
For more details circle NED-869 D7 on enclosed inquiry slip

PUMP & MOTOR
offered in various combinations

Positive displacement internal gear rotary pump, driving motor and cooling blower, combined in the Powermite pump and motor, occupy a space of 8½ x 4¾ in. A single shaft serves all units. Use can be in hydraulic, lubricating, oil burning and other services involving various fluids. Unit is furnished in production runs only in a variety of pump and motor combinations. Illustrated unit has a capacity of 18 gph at 300 psi and is driven by a 1/12-hp, 1750-rpm motor. Shaft extension for driving other accessories can be furnished. Made by **Tuthill Pump Co.**, Dept. PR, 937 E. 95th St., Chicago 19, Ill.

For more details circle NED-870 D7 on enclosed inquiry slip

BACKSTOP CLUTCHES
are large-bore, over-running units



Line of over-running large bore clutches includes six sizes for backstop purposes. They combine compact size and light weight with higher torque capacity than previous models. They are normally installed on the headshafts of large conveyor systems, and can be applied as backstops for elevators or dual drives for stand-by power applications and differential-speed drives. Bore sizes range from 6 to 12 in., with torque capacities from 18,500 to 136,500 lb-ft. All have sprags individually energized by pairs of springs, ball-bearing construction, mechanical seals and grease lubrication. Made by **Formsprag Co.**, 23595 Hoover Rd., Van Dyke, Mich.

For more details circle NED-871 D7 on enclosed inquiry slip

POWER CONCRETE TROWELS
six gasoline or electric models

Floating, leveling and troweling of concrete surfaces are applications for the Hydra-Trowel, offered in three 34-in. diameter and three 44-in. diameter models. The six units can be gasoline or electric powered. Blade system permits floating operations as soon as the finisher wants, without using float plates. The fingertip blade pitch control positions the blades for floating or finishing. Blades slice off high spots and fill up hollows to provide a level floor, and bring up enough cement fat for finish troweling operations. From coarse-sand to polished-burnish finishes can be obtained. Made by **Wiesner-Rapp Co.**, Kelley Machine Div., 288 Hinman Ave., Buffalo 23, N. Y.

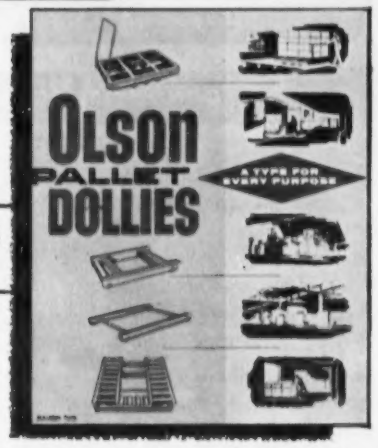
For more details circle NED-872 D7 on enclosed inquiry slip

Get this CATALOG now!

APPLICATION TIPS

MONEY-SAVING IDEAS

NEW DESIGNS



Write today for your copy of the new Olson Pallet Dolly catalog. Illustrates the complete line, showing applications, new uses, new designs. Before you buy another pallet dolly, see what Olson has to offer. There's no obligation!

OLSON CONVEYORS
SERVING AMERICAN INDUSTRY SINCE 1900

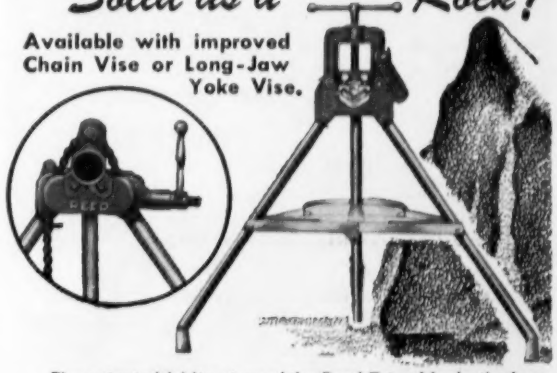
SAMUEL OLSON MFG. CO., INC.
2439 BLOOMINGDALE AVE.
CHICAGO 47, ILLINOIS
Offices in Principal Cities

For more details circle NED-873 D7 on enclosed inquiry slip

REED PORTABLE Folding-Tray TRIPOD VISES

Solid as a Rock!

Available with improved Chain Vise or Long-Jaw Yoke Vise.



The patented folding tray of the Reed Tripod locks the legs solidly to end spring and recoil. Tripod folds compactly for convenient, one-hand carrying. Sets up or takes down easily.

The improved Chain Vise features a convenient side handle which ends fumbling or skinned knuckles. Capacity from ⅛" to 4" makes it ideal for construction or maintenance work.

Yoke Vise Model features the patented REED long-bearing alloy steel jaws which hold any pipe from ⅛" to 2½" with a slight handle pressure. Special features eliminate lost motion.

Ask your supplier or write for free literature.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA • U. S. A.

For more details circle NED-874 D7 on enclosed inquiry slip

LIVE CENTER ACTION WITH DEAD CENTER ACCURACY

USE CMD ANTI-SCORING LUBRICANTS

PROVE IT TO YOURSELF IN YOUR OWN PLANT FOR ONE DOLLAR AND THIS COUPON!

Free-running work pieces on dead centers—with COMPLETE protection. CMD Lubricants are CONCENTRATED, providing a "tough" film between metals—absolutely NO GALLING or SEIZING—even under the heaviest load. They are STABILIZED for added "oiliness" giving longer, smoother runs without slip-stick action. It all adds up to LIVE CENTER ACTION with DEAD CENTER PRECISION. You've got to try it to believe it. The bigger the job, the better you'll like it.

TRIAL ORDER—TWO FOUR OZ. TUBES $1.00

Send me my order of CMD Lubricants right away! { Bill me $1. / Bill my company $1.

Name _____

Company Name _____

Address _____

City _____ State _____

Chicago Manufacturing and Distributing Company
1902 West 46th St., Chicago 9, Illinois

CHICAGO MANUFACTURING & DISTRIBUTING CO.

For more details circle NED-875 D7 on enclosed inquiry slip

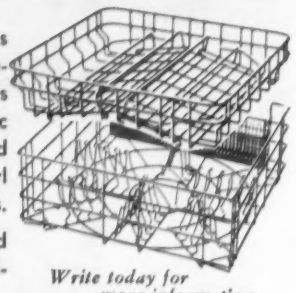
Formed Wire Products

ALL SIZES, SHAPES AND WEIGHTS

FLAT OR ROUND WIRE TO ½" DIAMETER

Made to your specifications in production quantities. Resistance welded at all points of contact. Available in zinc plate with zinc chromate and lacquer or dipped polyvinyl to your color specifications.

Fast, efficient delivery geared with your production schedules.



Write today for more information.

Peerless FORMED WIRE PRODUCTS

PEERLESS WIRE GOODS COMPANY, INC.
2706 FERRY STREET • LAFAYETTE, INDIANA

For more details circle NED-876 D7 on enclosed inquiry slip

PACKS TWICE The POWER* OF ORDINARY WALKIES

MODEL WL4F Capacity: 4,000 lb.

*12 volts for normal operation - - 24 volts for extra power!

NEW RAYMOND Walkie

BY USING four 6-volt auto batteries (rather than a single 12-volt industrial battery) the Raymond Walkie gives you dual voltage . . . 12 volts for all normal operations, plus a surge of 24 volts for long hauls and for negotiating steep ramps with full capacity loads.

This totally new Walkie offers you other distinct advantages too. For example, 3 separate speeds, forward and reverse . . . an exclusive safety control to protect the operator in tight spots . . . convenient, handle-located operating controls . . . greater maneuverability for working in narrow aisles . . . lighter overall weight without sacrificing capacity or durability.

Clip & Mail!

The RAYMOND CORPORATION
4122 Madison St., Greene, N.Y.

Rush me full details on your new RAYMOND Walkie.
☐ Send Bulletin. ☐ Have representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-877 D7 on enclosed inquiry slip

New Literature and Catalogs

Pipe & Fittings for Distilled Water

Barnstead Still & Demineralizer Co.—Tin-lined pipe, fittings, valves, faucets and accessories are designed to protect distilled or demineralized water from metallic contamination. They can be used to pipe pure water to any point in a plant or laboratory. Specifications are given in 4-page bulletin 139. Other pure water equipment is described.

For more details circle NED-878 D7 on enclosed inquiry slip

Motor-Mounted Pumps

Deming Co. — Motor-Mount centrifugal pumps which deliver up to 1200 gpm at heads to 220 ft are subject of 8-page illustrated bulletin 4200. Usable as machine components as well as for liquid transfer purposes, pumps are engineered for manufacturing, chemical, paper, contracting and other industries.

For more details circle NED-879 D7 on enclosed inquiry slip

Nuclear Compounds

New England Nuclear Corp.—Carbon-14, tritium, short-lived isotope and deuterium labeled compounds; standard source compounds; carbon-14 labeled steroids; and self-luminous sources are among the nuclear chemicals listed and priced in 24-page 1957 catalog. Also described are company's radioassay and consulting services.

For more details circle NED-880 D7 on enclosed inquiry slip

How to Insulate a Cable

Okonite Co.—28-page booklet "How to Insulate a Cable" is guide to the proper application of electrical insulation to conductors. Such factors as the right cable, insulating processes, taping and testing are discussed. Cartoons enliven the text.

For more details circle NED-881 D7 on enclosed inquiry slip

Indicating Pneumatic Controllers

Minneapolis-Honeywell Regulator Co., Industrial Div.—Temperatures in the range of 0 to 1000° F and pressures from 0 to 1000 psi can be indicated and controlled continuously with line of small-case indicating pneumatic controllers described in illustrated catalog C600/700-1.

For more details circle NED-882 D7 on enclosed inquiry slip

Plastic-Clad Metal

Arvin Industries, Inc.—Arvinyl is produced by bonding thin sheets of patterned vinyl plastic to steel or aluminum. This plastic-metal laminate can be formed in standard equipment without harm to the attractive textured finish. Material is available in thousands of designs and colors. Full details and offer of free working sample are contained in file folder.

For more details circle NED-883 D7 on enclosed inquiry slip

facts about Flexflyte®

that will help you solve your ducting problems

What is Flexflyte? It is a very lightweight, reinforced ducting made of a spring steel wire helix covered with coated fiber glass or a cotton fabric and bound with a fiber glass cord.

What are its applications? It is used for transmission of hot or cold air, fume removal, dust collection, materials handling, and the like.

How flexible is Flexflyte? It will make bends up to 180° without buckling.

What are its temperature ranges? From minus 120°F. to plus 650°F.

What pressures will Flexflyte handle? Internal pressures to 70 psi and external pressures to 15 psig.

Is it resistant to flame and abrasion? Exceptionally so, and it will not support combustion.

What about installation? Flexflyte is quickly, easily installed around corners and equipment parts by means of metal clamps. No elbows or fittings are required.

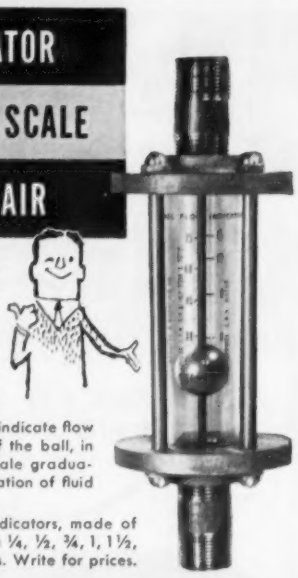
Can Flexflyte be engineered for unusual applications? Yes. Special fabrics, coatings, connections, lengths, diameters and enlarging or reducing ends are available. Our special Silicone Department is prepared to meet any requirement for silicone ducting.

How can I make sure that Flexflyte will solve my problems? Write, outlining your requirements, to Dept. 24.

Flexible Tubing CORPORATION
GUILFORD, CONNECTICUT • LOS ANGELES 64, CALIFORNIA

For more details circle NED-884 D7 on enclosed inquiry slip

SK FLOW INDICATOR PROVIDES DUAL SCALE FOR WATER OR AIR



Now, you can obtain approximate measurement of water flow in gpm and air flow in cfm with SK's Fig. 18123 Ball Flow Indicator.

Note the dual scale, for water and air, on the Flow Indicator in the illustration.

This indicator uses a ball to indicate flow in a pipe line. The position of the ball, in relation to the water or air scale graduations gives approximate indication of fluid rate-of-flow.

SK Fig. 18123 Ball Flow Indicators, made of bronze, are carried in stock in ¼, ½, ¾, 1, 1½, and 2 in. pipe connection sizes. Write for prices.

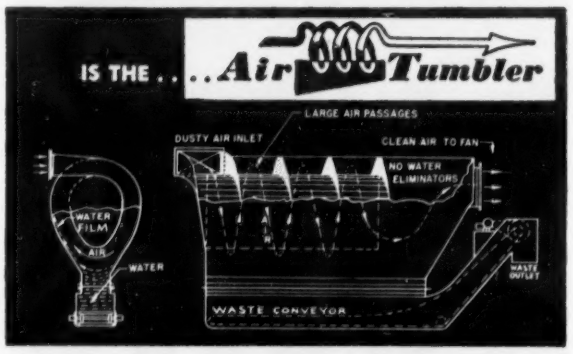
Schutte and Koerting COMPANY
MANUFACTURING ENGINEERS
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.

Jet Apparatus: Ask for Condensed Bulletin J-1. | Rotameters & Flow Indicators: Ask for Condensed Bulletin 18-RA. | Valves: Ask for Condensed Bulletin V-1. | Heat Transfer Apparatus: Ask for Condensed Bulletin HT-1. | Gear Pumps: Ask for Bulletin 17-A.

For more details circle NED-885 D7 on enclosed inquiry slip

The MASTER of DUST in INDUSTRY

IS THE . . . Air Tumbler



HIGH EFFICIENCY WITH LOW WATER EVAPORATION

Write For Bulletin No. 551

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

For more details circle NED-886 D7 on enclosed inquiry slip

FREE SAMPLES and APPLICATIONS of INDUSTRIAL FELT*

*made to S.A.E. and Federal Govt. Specifications

See why CONTINENTAL FELT fills hundreds of jobs daily

SEE HOW FELT FITS IN WITH YOUR PRODUCTS

Ask for booklet G

CONTINENTAL FELT COMPANY, INC. 1905
22-26 WEST 15th STREET NEW YORK 11, N. Y.

For more details circle NED-887 D7 on enclosed inquiry slip

Looking for HARDNESS TESTING FACTS?

Get this free catalog

Send today for catalog containing complete details on all types of Brinell Hardness Testers . . . for laboratory, or production: Dead Weight, Hydraulic, Hand or Motor Operated, Large or Small, Standard and Special.

Since 1914

Steel City Testing Machines Inc.

Sales Offices in all metalworking areas.

8819 Lyndon Ave., Detroit 38, Mich.

For more details circle NED-888 D7 on enclosed inquiry slip

Are you using the benefits of this wide selection of Carpenter STAINLESS PIPE for Cost-Saving Corrosion Control

WHAT'S YOUR PROBLEM?	HERE'S YOUR ANSWER
General Corrosion and Oxidation	14 Types of Austenitic and Ferritic Stainless Pipe
Stress, Corrosion, Cracking	7 Mo Stainless Pipe
Sulphuric Acid and Other Strong Corrodents	No. 20 Cb Stainless Pipe
Hydrochloric, Phosphoric and Other Halogen Acids	Alloy B Pipe
Strong Oxidizing Conditions	Alloy C Pipe
Severe Corrosion and Pitting	Titanium Pipe
Abrasive Conditions	*17-7 PH Pipe

*Trademark of Armco Steel Corporation

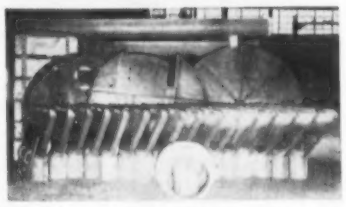
Your nearest Carpenter Distributor will gladly help you select the stainless pipe best suited for handling your corrosive solutions. Schedules 5, 10 and 40 in sizes to 4". Send for Selecting and Buying Guide T. D. 120.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, New Jersey

For more details circle NED-889 D7 on enclosed inquiry slip

New Processes and Materials

REINFORCED PLASTIC
affords fire, corrosion resistance



Corrosion resistance to an even wider range of conditions than provided by the best polyester resins, plus improved fire resistance are characteristic of Haveg 6610 glass fiber-reinforced plastic resin. As light as polyester, plastic also affords greater impact strength. Photo shows fume hoods, ducts and tank covers fabricated from Haveg 6610. Standard and special tanks, towers, trays and other process equipment are also offered in this new plastic. Made by **Haveg Industries, Inc.**, 934 Greenbank Rd., Wilmington 8, Del.

For more details circle NED-890 D7 on enclosed inquiry slip

LIQUID FLOOR FINISH
applications last up to 6 months

Long-lasting luster without rebuffing is provided by Nu-Hygloss liquid floor finish. For average wear, after stripping floors, a two-coat application reportedly will last from 3 to 6 months. An additional coat may be applied for longer protection. Product contains no solvents or harmful chemicals and is slip-resistant. Made by **Penetone Co.**, Box 70ANED-3, Tenafly, N. J.

For more details circle NED-891 D7 on enclosed inquiry slip

GASKETING MATERIALS
flexible, durable, easily applied

Easily applied group of asbestos fiber gasketing materials will not crack or pipe with sharp bending. Photo shows 1/32-in. sheet rolled around a pencil. Inherent toughness and flexibility permit easy handling and clean die cutting without loose fibers. They seal well under low bolting pressure and have uniform thickness and a coating of rubber binder. Tests show good sealing with minimum bolt torque loss with flange temperatures up to 500° F and internal liquid pressures up to 500 psi. Compounds are available with styrene, nitrile and chloroprene type rubber binders as roll goods, sheets or die cut parts. Made by **Armstrong Cork Co.**, Industrial Div., 1270 State St., Lancaster, Pa.

For more details circle NED-892 D7 on enclosed inquiry slip

SCHERR PRECISION MEASURING TOOLS

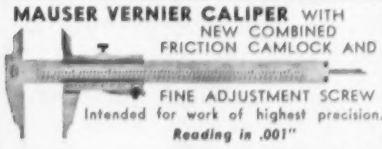
MAUSER VERNIER CALIPER STAINLESS STEEL

NEW VERNIER SLIDES ARE NOW DULL CHROMED

$14.75 Reading in .001"

The NEW #101 Mauser Vernier Caliper is now made entirely out of Stainless Steel - and features double length Vernier, new gib construction of slide, quick-acting cam lock, etc. Measuring cap. 5-5/16" outside, inside and depth.

MAUSER VERNIER CALIPER WITH NEW COMBINED FRICTION CAMLOCK AND FINE ADJUSTMENT SCREW



Intended for work of highest precision. Reading in .001"

Vernier Caliper #1407. Code GINDO $25.50
Height Gauge #1408. Code GINFU $33.50
Request Illus. Brochure

UNIVERSAL BEVEL PROTRACTOR with LOUPE

Hardened 6" blade. "Lustro-Chrome" finished measuring face.
Special Chrome Steel $22.50
Stainless Steel $25.50
Reading in 5 min. of arc

NEW MICRO PROJECTOR $375.00 BASE PRICE

GEO. SCHERR CO., INC.
200 ND LAFAYETTE ST. • NEW YORK 12, N. Y.

For more details circle NED-893 D7 on enclosed inquiry slip

ENTIRELY NEW LEVER PULLER
— positive friction brake holds load in any position

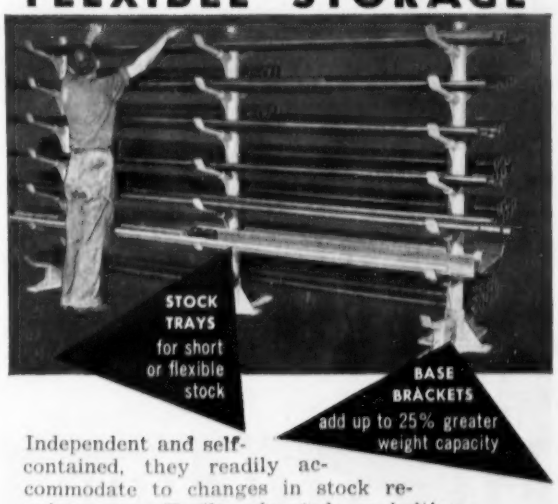
You have to see a Peerless Pal to appreciate its compactness. The ¼-ton unit is packaged in an attractive metal box with carrying handle. The container is also capable of holding a capacity-doubling snatch block. The ½-ton unit is only slightly larger.

Lift a load, lower a load, drag a load smoothly with the entirely new Peerless Pal Lever Puller. A true friction brake holds it safely in any position. The Peerless Pal is so light and compact that it can be carried in the palm of your hand. Fully enclosed construction, too, makes it ideal for use in shops, on trucks, on farms, in service stations, on the highway, around boats. Write for Bulletin P-40 today.

THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

For more details circle NED-894 D7 on enclosed inquiry slip

FLEXIBLE STORAGE



Independent and self-contained, they readily accommodate to changes in stock requirements. Easily relocated; no bolting. You get more into less space; you save time in storing and issuing with Brown Section Racks. Iron and steel construction. Can't burn, warp, sag. Never wear out. Eliminate safety hazards. Act now! Write for complete specs and prices on models and sizes. Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN QUICK-SERVE RACKS

For more details circle NED-895 D7 on enclosed inquiry slip

No More Leaky Drums

No more backing off or forcing faucets beyond a tight thread connection to secure the correct position for pouring. Loose connections or stripped threads cause leaks which are especially hazardous with flammable solvent vapors.

PROTECTOSEAL Self-Positioning Swivel-Spout Faucets prevent these leaks!

Simply screw into drum and secure a firm, tight thread seat. Then swivel pouring spout to the correct position for use. Saves time—saves solvent—provides a tight closure at all times and can be used repeatedly. Will outlast three or four ordinary drum faucets and end the constant expense of replacement.

DRUM BUNG FITTING with perforated metal double-wall fire baffle provides automatic pressure relief and vacuum relief. Prevents drum rupture and explosion from vapor pressure within drum—permits smooth, even withdrawal of liquid without adjustment of fitting.

Ask for illustrated catalog "Flammable Liquid Drum Storage and Dispensing", describes all safe practices and fire preventive equipment for delivery, storage and dispensing. *Fill in coupon* and attach to company letterhead.

In Canada: Safety Supply Co., Toronto

The Protectoseal Company
1964 South Western Avenue, Chicago 8, Ill.
Please send informative booklet "Flammable Liquids Drum Storage and Dispensing"
Name _____ Title _____
Company _____ Address _____
City _____ Zone _____ State _____

For more details circle NED-896 D7 on enclosed inquiry slip

CUT OVEN COSTS 2 WAYS!

1408 W. Carroll Ave., Chicago 7, Ill.
Export Dept. 10406 S. Western Ave., Chicago 43, Illinois

▲ For more details circle NED-897 D7 on enclosed inquiry slip ▲

For Small Production Runs

Cut Your Studs, Bolts, Hangers from

REDI-BOLT®

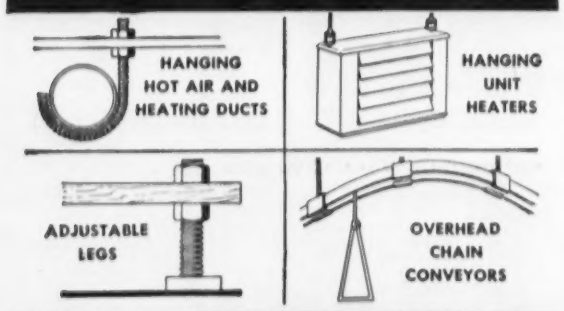
CONTINUOUSLY THREADED STEEL RODS

13 SIZES, 3/16" TO 1 1/2"

Small-run requirements for special studs, bolts, etc., are easy to handle, if you have a supply of REDI-BOLTS on hand. Just cut REDI-BOLT to the length you need and add standard nuts. No threading necessary. These continuously threaded steel rods eliminate the need for "big" special-bolt inventories and the expense of small-quantity purchases.

All 13 diameters are supplied in standard lengths of 24" and 36"; other lengths on special order. Precision threaded in two sizes: *Standard National Coarse* and *SAE (National Fine)*. Available with zinc plate or regular rust-resistant finish. Order a supply of various diameters, today.

IDEAL FOR 101 INSTALLATION, REPAIR, AND MAINTENANCE JOBS, TOO!



Made by the makers of REDI-ROD Steel and Aluminum Bars

Ask your Mill Supply House, or write

REDI-BOLT, Inc., 5312 Indianapolis Blvd., East Chicago, Ind.

▲ For more details circle NED-898 D7 on enclosed inquiry slip ▲

New Literature & Catalogs

Turret Tool Posts

McCrosky Tool Corp.—Clamping type handle that assures positive locking and withstands vibration when handling interrupted cuts or fast feeds and speeds of heavy duty lathes is feature of McCrosky turret tool post. It is described and illustrated in 8-page bulletin 19-T. Three styles and 11 sizes are available for mounting in T-slot of engine lathes.

▲ For more details circle NED-899 D7 on enclosed inquiry slip ▲

Hose Clamps, Tools & Fittings

Punch-Lok Co.—Besides covering standard type hose clamps, grooved hose fittings, special tools and replacement parts, 12-page illustrated catalog 300RG-56 is an instruction and training manual. Applications and how to apply the clamps are covered.

▲ For more details circle NED-900 D7 on enclosed inquiry slip ▲

Twin Ram Broaching Machines

Detroit Broach & Machine Co.—Standard capacities from 5 to 25 tons, stroke lengths from 30 to 100 in. and cutting speeds between 4 and 35 fpm are available in twin ram vertical broaching machines. An 8-page illustrated brochure presents their specifications and installation data.

▲ For more details circle NED-901 D7 on enclosed inquiry slip ▲

Humidification Systems

Spraying Systems Co.—All units required in an industrial humidfying spraying system are offered by this company, exclusive of piping and wiring. Nozzles, nozzle assemblies, float boxes, humidistats, solenoid operated valves and other components are illustrated in descriptive 4-page bulletin 82.

▲ For more details circle NED-902 D7 on enclosed inquiry slip ▲

Platen Conveyors

Visi-trol Engineering Co.—Conveymatic Carrousel steel platen conveyors described and illustrated in 4-page bulletin C-1056 are adaptable for materials handling, automatic assembling, inspecting or light machining. Sizes, travel speeds, working heights and load capacities are given.

▲ For more details circle NED-903 D7 on enclosed inquiry slip ▲

Products & Processes

American Smelting & Refining Co.—Over 30 color and black and white photographs in 28-page booklet "ASARCO Products and Processes" provide a pictorial review of the company's mining, smelting, refining and research operations. Company produces lead, zinc, copper, gold, silver, indium, antimony, selenium, arsenic and other metals.

▲ For more details circle NED-904 D7 on enclosed inquiry slip ▲

Motion Pictures

United States Steel Corp.—Eighteenth edition of catalog describes educational and entertaining motion pictures sponsored and distributed by this company. Five new films released in 1956 are included. Variety of popular, semitechnical, technical and agricultural subjects is included.

▲ For more details circle NED-905 D7 on enclosed inquiry slip ▲

Maintenance Coatings

Skybryte Co.—Twelve industrial maintenance products, including No-Glare factory window coating which reduces sun glare and heat, are described in 6-page catalog. Also covered are heat resisting aluminum and black paints, concrete floor enamel, rust inhibiting paint, aluminum roof coating, acid and alkali resisting paints and aluminum fence paints.

▲ For more details circle NED-906 D7 on enclosed inquiry slip ▲

Butyl Rubber

Thiokol Chemical Corp.—Butyl rubber information kit contains data on market developments, technical bulletin on evaluation of butyl accelerators and a study of carbon black in butyl rubber. Types and properties chart is also included.

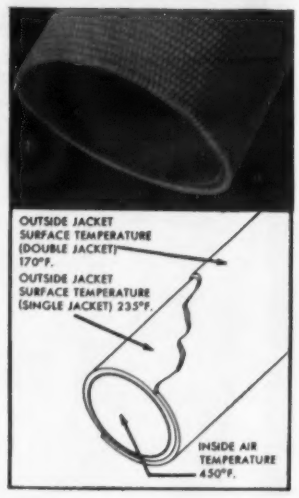
▲ For more details circle NED-907 D7 on enclosed inquiry slip ▲

Selenium Rectifier Replacements

Detailed information on selenium rectifier replacements for a wide variety of electronic products is presented in 52-page Replacement Guide. Trouble shooting, servicing and testing information is also included, along with dimensional data, electrical characteristics and a cross reference table. Price is $1.25. Write directly to Federal Telephone & Radio Co., Components Div., 100 Kingsland Rd., Clifton, N. J.

▲ For more details circle NED-908 D7 on enclosed inquiry slip ▲

NEW QUAKER HOSE for hot air ducting



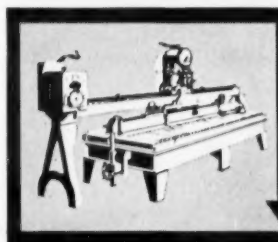
Made in continuous lengths up to 50', this new hose easily withstands temperatures as high as +450°F; as low as −80°F. Its synthetic fabric jacket and silicone tube retain temperatures from upstream to downstream end . . . cut heat loss up to 57%. Lightweight and fully flexible, the hose resists abrasion. Available in either single or double jacket, and in 1" to 4" I.D.'s. Sizes 1" and 1¼" I.D. can be made in 30' continuous lengths; 1½" to 4" I.D. in 50' lengths. The hose takes regular expansion and shank hose couplings.

For more information, write:

H. K. Porter Company, Inc., Quaker Rubber Division, Philadelphia 24, Pa., or Quaker Pioneer Rubber Division, Pittsburg, Calif.

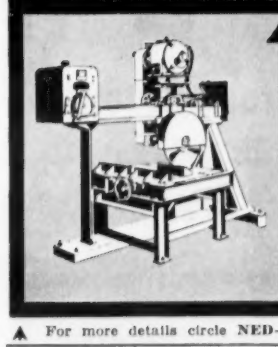
HKP QUAKER RUBBER DIVISION QUAKER PIONEER RUBBER DIVISION H. K. PORTER COMPANY, INC.

▲ For more details circle NED-909 D7 on enclosed inquiry slip ▲



Clean, accurate high-speed cuts on ANY METAL, PLASTIC, or WOOD. Cut-offs for 10" to 48" cuts . . . long-cut saws for 4' to 60' cuts.

Cuts Metal FAST!



Choose from dozens of models . . . 3 to 125 HP . . . 6" to 87" blade capacity. Cross movement available.

WRITE TODAY FOR Free Brochure

TY-SA-MAN Machine Co.
550 White Ave.
Knoxville, Tenn.

▲ For more details circle NED-910 D7 on enclosed inquiry slip ▲

Webster DIRECT READING

HYDRAULIC TYPE

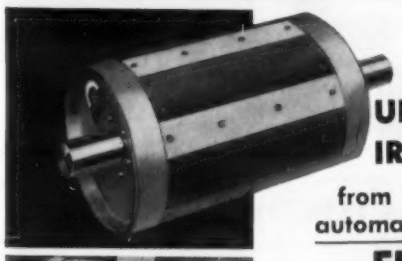
FORCE GAUGES

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.

Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

▲ For more details circle NED-911 D7 on enclosed inquiry slip ▲



REMOVE UNWANTED IRON

from your lines automatically with

ERIEZ

permanent-powered MAGNETIC PULLEYS

No maintenance, no operating costs! Improved design is more effective than ever before for *automatic* separation of magnetic from non-magnetic materials conveyed on belts of rubber, canvas, stainless steel, etc. Equally efficient with hot or cold, wet or dry materials. *Eriez Magnetic Pulleys are easily installed, non-electric, self-contained, operate without any wires or attachments. Magnetic strength is guaranteed 100 years; first cost is the only cost.*

TOP: *Eriez Pulley removing tramp iron from pulverized coal. Protects equipment, helps prevent explosions.*

BOTTOM: *This Eriez Pulley is automatically removing ferrous contamination from grain at a milling plant. Assures product purity, prevents machinery damage and fires and explosions.*

ERIEZ HI-POWR MAGNETIC SEPARATORS

Magnetic SEPARATION AUTOMATION VIBRATION equipment

Write for BIG NEW CATALOG showing complete line of Magnetic Pulleys. ERIEZ Mfg. Co., 80-R Magnet Drive, Erie, Pa.

▲ For more details circle NED-912 D7 on enclosed inquiry slip ▲

THERE'S MORE HERE THAN MEETS THE EYE...

467 C

In an iceberg or in a J. K. Smit Diamond Tool only a fraction shows above the surface.

Everyone knows about the unseen portion of an arctic iceberg. Many do not realize the unseen factors that lie beneath the surface of a J. K. Smit Diamond Tool, such as . . . our constant research to find still better methods of manufacturing Diamond Tools, the unquestioned integrity of our company since 1888, the manufacturing skills that have been learned and passed on through all those years, and quality control of manufacture for tool duplication.

All these hidden assets count much toward maintaining our position as a leader in the industry today.

When *your* next job specifies a diamond tool for any purpose contact J. K. Smit. Our field representatives are trained and qualified to assist you with any standard or special application.

J. K. SMIT & SONS, INC.
HOME OFFICE AND PLANT
MURRAY HILL NEW JERSEY

Additional plants in London, Paris, Amsterdam and Toronto, Canada

▲ For more details circle NED-913 D7 on enclosed inquiry slip ▲

New Processes & Materials

SELF-CLEANING FLUX for soldering various metals

Need for preliminary cleaning of surfaces to be soldered is eliminated by use of this self-cleaning, noncorrosive, nonacidic solder flux. It is equally effective on copper, brass, lead, tin, zinc, and cast and wrought iron. Soldering is by standard procedures. Once the solder is applied, cleaning action stops. Flux is packaged in 3-oz, ½ and 1-lb quantities. Made by **Crest Mfg. Co.**, 4-65 48th Ave., Long Island City 1, N. Y.

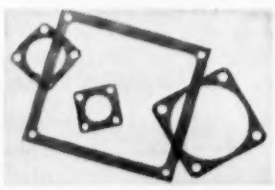
▲ For more details circle NED-914 D7 on enclosed inquiry slip ▲

STAINLESS STEEL TUBING precipitation hardening type

High strength-to-weight ratio and corrosion resistance are qualities of Armco 17-7PH precipitation hardening stainless steel which is now available in tubular form. The hardenable chromium-nickel steel is suited for parts requiring abrasion resistance, high tensile strength and a springy temper. At elevated temperatures, it can be used as a structurally-light metal like titanium, aluminum, magnesium and other alloys. In the hardened condition TH 1050, it has higher mechanical properties than any of the chromium-nickel stainless steels. Precipitation hardening by one of various methods provides a Rockwell hardness of C-42-43, at which point tensile strength is 200,000 psi. In an annealed condition, tubing and pipe are readily bent, formed, drawn, welded, brazed and machined. Made by **Carpenter Steel Co.**, Alloy Tube Div., 118 Springfield Rd., Union, N. J.

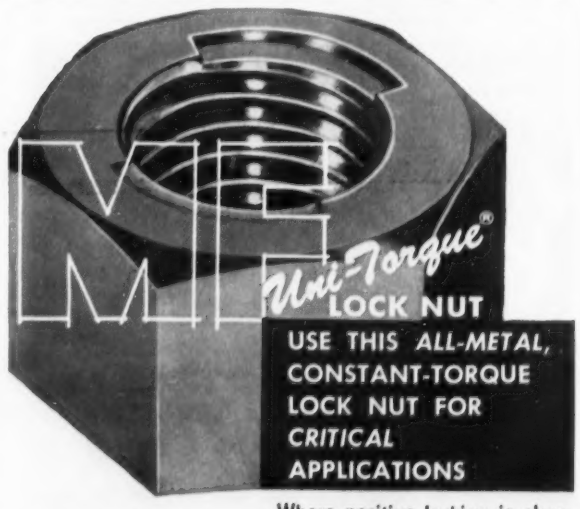
▲ For more details circle NED-915 D7 on enclosed inquiry slip ▲

CONDUCTIVE, SHIELDING GASKET in cut shapes and roll stock



Made of flexible aluminum wire cloth impregnated with neoprene, Alu-Flex gasketing material is both conductive and shielding. It provides an air seal, yet it conducts high frequency currents. It will prevent leakage which might affect radio and electronic operation. Dimensionally stable, it resists deterioration. It is particularly suited for gasket mounting of electrical and electronic equipment on aircraft and mobile equipment. Made in 0.016 and 0.02-in. thicknesses, in rolls 8 in. wide, it can be supplied cut to specification. Made by **Auburn Mfg. Co.**, 312 Stack St., Middletown, Conn.

▲ For more details circle NED-916 D7 on enclosed inquiry slip ▲



USE THIS ALL-METAL, CONSTANT-TORQUE LOCK NUT FOR CRITICAL APPLICATIONS

NOW TRY THE M-F TWO-WAY LOCK NUT!

DOUBLE CHAMFERED—May be automated without selective devices. Starts from either end—locks in body of nut, not at the crown. Write for specifications.

**Ask us why.*

Where positive locking is absolutely essential, the M-F Uni-Torque lock nut becomes *more* than a means of applying uniform bolt tension—*more* than a smooth-running production line.

The M-F Uni-Torque delivers *safety*... fidelity of design down to the last thread. *Performance as engineered!*

No need to take a chance—M-F Uni-Torque Lock Nuts cost NO MORE (cost LESS to use!)*

MAC LEAN-FOGG *Lock Nut Company*
5535 N. Wolcott Street, Chicago 40, Illinois

▲ For more details circle NED-917 D7 on enclosed inquiry slip ▲

Plastic Seal BETTER PACKAGING *at* LOWER COST!

Protects parts FROM RUST AND DAMAGE *while handling or shipping!*

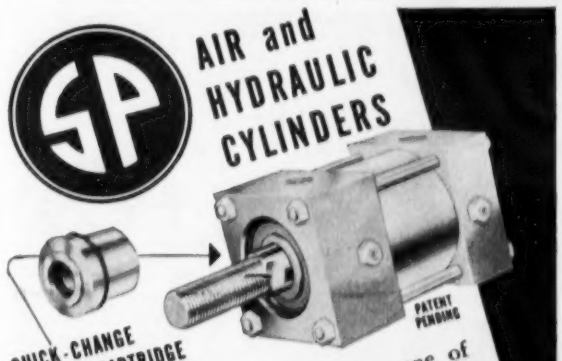
Plastic Seal forms a skin tight coating that is moisture-proof and air-tight. Strongly resists shock and abrasion. Ideal for bulk shipments — requires less wrapping — reduces cost. Although Plastic Seal is tough it can be easily peeled. Transparency allows instant inspection and identification. Also available in colors for coding.

Write for information on Plastic Seal Dipping equipment and Plastic Seal hot-dip protective coatings.

PLASTIC SEAL A PRODUCT OF
GLOBE IMPERIAL
DIVISION OF **PRECISION CASTINGS CO.**
2023 KISHWAUKEE ST. ROCKFORD, ILLINOIS

▲ For more details circle NED-918 D7 on enclosed inquiry slip ▲

SP AIR and HYDRAULIC CYLINDERS



QUICK-CHANGE PACKING CARTRIDGE CUTS DOWNTIME

Removable packing cartridge is just one of many modern design features of S-P all-steel cylinders. Made in a wide range of mountings and bore sizes. Prompt deliveries. Send for catalog on Hydraulic Cylinders or Standard Air Cylinders or Heavy-Duty Air Cylinders. The S-P Manufacturing Corp., 30201 Aurora Rd., Solon, Ohio.

SEND FOR *Catalog*

THE S-P MANUFACTURING CORP.
SOLON, OHIO • IN GREATER CLEVELAND
Established 1916
A Bassett Company
ROTATING AIR AND HYDRAULIC CYLINDERS • POWER CHUCKS
NON-ROTATING AIR AND HYDRAULIC CYLINDERS
COLLET AND DRILL PRESS CHUCKS • AIR PISTONS, VALVES, ACCESSORIES

▲ For more details circle NED-919 D7 on enclosed inquiry slip ▲

New! **S-N**

MODEL 5201 HEAVY-DUTY REVERSING TRANSMISSION

Model 5201 combines forward—neutral—reverse—reduction in a single compact unit handling up to 28 HP. Reverses smoothly, under full load if needed. Reduction ratio 3.16:1 in both directions. Maximum input torque 1000 lb. in. Maximum input speed 2000 RPM.

Write for technical literature.

SNOW-NABSTEDT
Transmission Engineers
FOR HALF A CENTURY
MAKERS OF ALL GEARS
THE SNOW-NABSTEDT GEAR CORP., HAMDEN, CONN.

▲ For more details circle NED-920 D7 on enclosed inquiry slip ▲

HARDNESS TESTER

portable and precise!

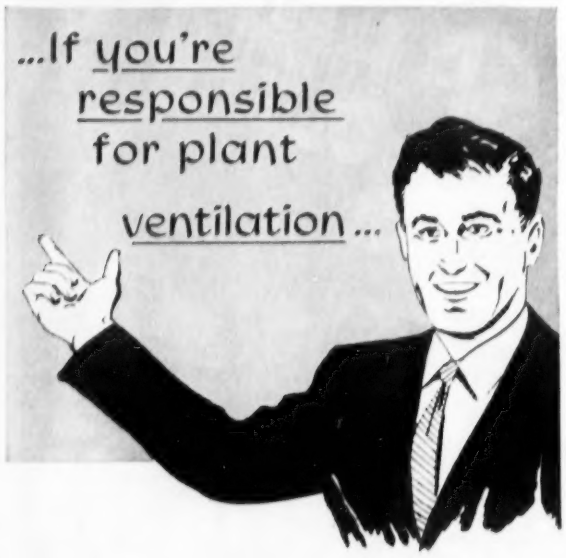
A Riehle sales engineer will *prove* — in your own plant, on certified calibrated specimens — that a Riehle portable gives Rockwell readings of "bench tester" accuracy. Make tests on your own materials too. See how this portable saves carrying unwieldy pieces to a bench for testing.

FREE BULLETIN . . . WRITE DEPT. NED-457

Riehle TESTING MACHINES
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILL.

For more details circle NED-922 D7 on enclosed inquiry slip

...If you're responsible for plant ventilation...



. . . you have a big job! Problems of fume, steam and smoke removal land in your lap. Some areas are too hot for peak work efficiency — fresh air has to be moved into every part of the plant — perhaps humidity control is important or paint booths have to be ventilated . . . You may have 1000 problems, but . . .

Chelsea

...has 1000 ways to help you!

. . . by that we aren't simply boasting about the fact that we have over 1000 regularly stocked models and sizes of Chelsea fans! For over 30 years we've been fan specialists and we can effectively assist in the design of a complete plant ventilating system or a single spot cooling device. Furthermore, we're not limited in our recommendations because we make practically every type and size of fans that you could possibly use!

USE CHELSEA'S ENGINEERING EXPERIENCE!

With the records of thousands of successful installations to draw from and the 'know-how' that comes only with experience, Chelsea engineers can provide practical solutions to any ventilating problem . . . We'll gladly make a survey and submit our recommendations without cost or obligation — just call or write us!

TYPE IND
Ventilating Fans

PH & PHD
Pent House Units

CHELSEA FAN & BLOWER CO., INC.
PLAINFIELD, NEW JERSEY 59-29

For more details circle NED-923 D7 on enclosed inquiry slip

New Literature & Catalogs

Closures for Tube, Pipe & Fittings

Protective Closures Co., CaPlugs Div.—Data sheets and actual samples of representative items in the CaPlug line of polyethylene closures are included in file folder. Both threaded and nothreaded caps and plugs for safeguarding pipe, tubing and products in process, storage and transit are described. Included are dimension and price sheets for over 300 sizes of ten standard designs for tubing, valves, hydraulic components, machined parts and fittings.

For more details circle NED-924 D7 on enclosed inquiry slip

Production Facilities

Automotive Fabricators Inc.—12-page illustrated catalog outlines facilities of this company for producing zinc alloy dies, welded fabrications, die models and plastic duplications, experimental and short run stampings and handmade samples. Their experience covers design and production of various high-precision parts.

For more details circle NED-925 D7 on enclosed inquiry slip

Stainless & Aluminum Fasteners

Accurate Threaded Fasteners Inc.—Included in complete line of stainless steel and aluminum fasteners described in 4-page bulletin are thread-cutting, sheet metal, machine and cap screws; washers; specials; bolts and nuts. Fasteners are also made in brass, steel, phosphor bronze and other metals.

For more details circle NED-926 D7 on enclosed inquiry slip

Wiring, Assembly & Machining Facilities

Paraplegics Mfg. Co.—The facilities of this company available for machining, assembly and testing of electrical and electronic components is subject of 8-page brochure. Work quality is assured by the care and experience of the handicapped workers who own and operate this company.

For more details circle NED-927 D7 on enclosed inquiry slip

Electric Boxes & Cabinets

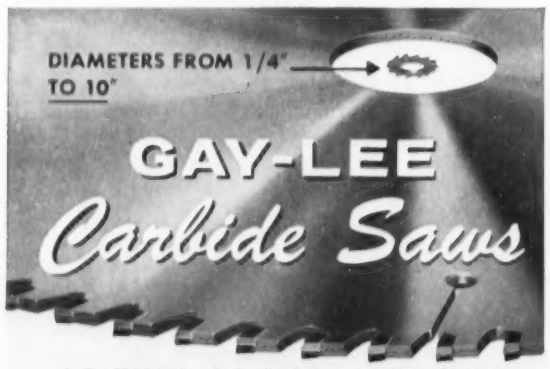
Spring City Electrical Mfg. Co.—24-page illustrated catalog No. 10 gives details of line of electric boxes and cabinets. Data are given on metal junction and pull boxes, hinged cabinets, explosion housings and fixture outlet boxes.

For more details circle NED-928 D7 on enclosed inquiry slip

Data on Electric Heaters

General Electric Co.—Complete design and engineering data on a wide range of electric heaters and heating devices are included in 72-page 1957 catalog No. GEC-1005H. A 16-page power requirements section shows short and long form calculations for heating applications. Typical problems are solved. Described are such items as immersion, strip, tubular, finned tubular and railroad switch heaters; unit heaters; soldering irons; soft metal melting pots; oven equipment and controls.

For more details circle NED-929 D7 on enclosed inquiry slip



AS THIN AS YOU NEED FOR SLITTING, SLOTTING, SAWING

Make tough production problems easy with the Gay-Lee carbide-tipped "Thinsaw." Even when wafer-thin for the most delicate work, these saws provide positive alignment and rigidity that allow cutting free of run-out to full depth. Carbide tips for speed and long life, expertly brazed into a specially designed, patented seat that secures them firmly. Thickness as low as .030", thickness tolerances can be held to .0001", diameters ¼" to 10". Send details of your problem for recommendations and quotations.

Patented — manufactured under license
Stronger Braze Circular Seal

GAY-LEE COMPANY
CLAWSON • MICHIGAN

For more details circle NED-930 D7 on enclosed inquiry slip

New Low-Cost Ways to SAVE YOUR PUMPS

FILTROS "Flo-Clear" LIQUID FILTERS

The complete line of filters for water and many other liquids. New Model C (top left), for "in-the-line" use, may be installed anywhere most convenient. 3 other models are for use at end of supply line—in stream, pool, lake, tanks or solution vats.

In addition to uses with liquids, the "Flo-Clear" filter will remove sediment, oil, moisture and suspended impurities in compressed air and gas lines. Write for free literature.

We can also help you with other filtering problems, with either one of our many standard products, or a new one designed and built to your individual specifications. Write us today.

ENGINEERING, DESIGN Service
FILTROS also Produces Porous Ceramic Media for: AERATION, FILTRATION, DIFFUSION, ELECTROLYSIS, GAS ABSORPTION, CATALYST SUPPORTS, AIR CONVEYOR SYSTEMS.
Consult us about your Needs.

FILTROS INC.
610 West Commercial St.
East Rochester, N.Y.
Manufacturers of Porous Ceramics for Industry since 1913

For more details circle NED-931 D7 on enclosed inquiry slip

NEW automatic all-weather roof ventilator

All desired features of more expensive units now in new economy-priced Aerovent Model 53 Power Roof Ventilators! Discharge dust, fumes, heat, moisture! Dampers open and close automatically. Rugged construction and finest workmanship assure dependable all-weather operation! Sizes 12" to 48", with capacities to 41,000 C.F.M. Available for flat, sloped or peaked roofs.

Other power and gravity units for air-supply or exhaust. write for free bulletin 600

Rated in accordance with Standard Test Code and U.S.D.C. Comm. Std. CS178-51.

Aerovent FAN CO. INC.
Ash and Blake Sts. Piqua, Ohio

For more details circle NED-932 D7 on enclosed inquiry slip

Compare! No Other Lift Truck can equal the performance of Automatic's New "DOCKER"

✓ Shortest, most compact truck in its class!

✓ Lowest step height—best grade clearance!

✓ Top lift and travel speeds, maximum stability!

Best performing truck on the market for the trucking industry and other close-quarter materials handling, the new "Docker" is 5 ways superior! Overall length (less fork) of 53⅞" • step height of only 7" • lift speed of 65 FPM • grade clearance of 45% • turning radius of 56". *No other* truck of its type offers so much! The "Docker" provides greater stability, too, through 4-wheel suspension and a lower center of gravity. It is available in Mono-Lift or Duo-Lift, 1,000 to 3,000 lbs. capacities.

Automatic
WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS
61 W. 87th St., Dept. D-7, Chicago 20, Illinois

For more details circle NED-933 D7 on enclosed inquiry slip

WHY WASTE YOUR PROFITS ON MAKESHIFT SETUPS?

T-NUT & STUD SETS – 12 SIZES

STEP BLOCK & CLAMP SETS – 5 SIZES

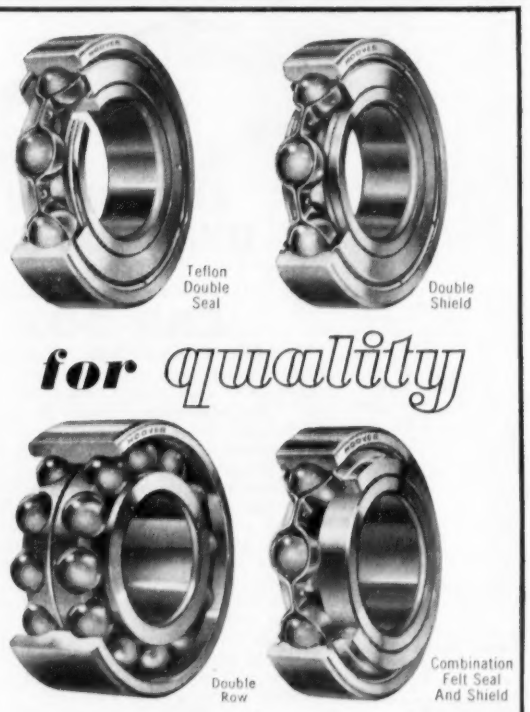
PUNCH PRESS SETS – 5 SIZES

BE WISE Save with NORTHWESTERN

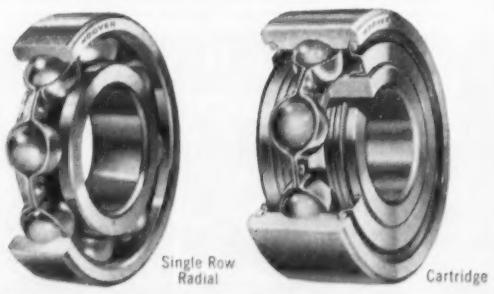
CATALOG No. 23 SENT ON REQUEST

Northwestern
127 HOLLIER AVE., DAYTON 3, OHIO

For more details circle NED-934 D7 on enclosed inquiry slip



for quality



use hoover

When you want quality bearings to add to the performance, long life and smooth operation of your products, use Hoover Ball Bearings. They combine the exactness of *Micro-Velvet* Lapped Balls with the ultra-smoothness of *Hoover Honed* Raceways. The result—top quality bearings that assure unexcelled performance, quietness, long life and heavy load capacity.

Hoover Ball Bearings are available in the light, medium and heavy-duty series . . . their microscopic precision adds up to your "best buy" in ball bearings. Manufacturers are invited to call in Hoover engineers for technical assistance.

Write for your copy of "Hoover Handi-Book of Anti-Friction Bearings." It analyzes the characteristics of all types of anti-friction bearings.

hoover

BALL AND BEARING COMPANY, ANN ARBOR, MICHIGAN

Micro-Velvet and *Hoover Honed* are Hoover Trademarks

For more details circle NED-935 D7 on enclosed inquiry slip

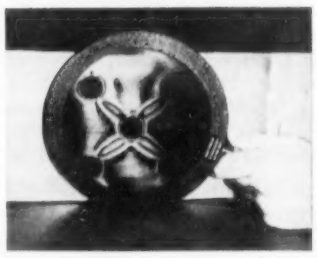
New Processes & Materials

SILICA BRICK TREATMENT prevents dust in brick handling

Problem created by dust resulting from handling silica brick is eliminated by process which involves dipping brick in Orzan A, a chemical wood pulp product. Process eliminates silica dust in the brick laying area without affecting brick life or refractoriness. Stacked on pallets, bricks are dipped into solution which penetrates to the innermost brick and dries to dustproof resinous coating around all surfaces. Orzan A contains no alkalies, leaves no harmful residue and burns out completely. It can also be spray applied. Cost of treatment is less than half a cent per brick. Developed by **Crown Zellerbach Corp.**, Chemical Products Div., Dept. NED, Camas, Wash.

For more details circle NED-936 D7 on enclosed inquiry slip

STRESS ANALYSIS TECHNIQUE employs photoelastic method to test actual full size structures



Experimental stress analysis of actual full size structures or components made of metal, concrete, wood, glass, plastic, rubber, stone or other materials is made possible by PhotoStress technique. Conventional photoelastic methods are employed, except that the transparent plastic is bonded to the part and strains are determined under actual test conditions.

Technique is both quantitative in terms of microinches per inch strain and qualitative by showing direction and magnitude of principal strains. It can be used both statically and dynamically in determining strength of structures in service, and combines both optical and electronic methods in locating and evaluating regions of maximum strain.

Process utilizes both liquid and strips of photoelastic material. Strips can be shaped to simple contours, while the liquid plastic coating is used on small parts and complex shapes. Process can be conducted in −67 to 284° F temperatures and when immersed in water, salt water, oil and gasoline. Materials available from **Budd Co.**, 2450 Hunting Park Ave., Philadelphia 32, Pa.

For more details circle NED-937 D7 on enclosed inquiry slip

The Standard of Excellence!

For design, utility, and service you can't beat VACO. The Comfordome handle and oil tempered chrome vanadium steel blade assure maximum convenience at low cost. The VACO name and unconditional guarantee assure finest workmanship.

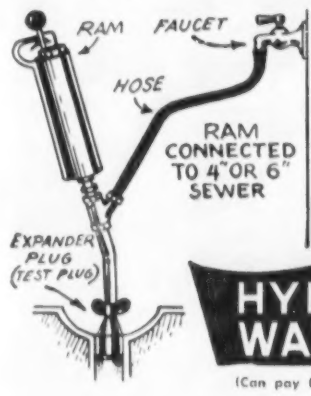
Look for the VACO Vari-Board! Next time you need a screw driver, fit the driver to the screw by making your selection from a VACO Vari-Board. Your choice of up to 120 screw drivers at a glance!

NEW! VACO PLIERS! Now available in all popular styles and sizes. Made to VACO quality specifications.

VACO PRODUCTS COMPANY, 317 E. Ontario St., Chicago 11, Ill.
In Canada: Vaco-Lynn Products, Ltd., Montreal 1, Quebec

For more details circle NED-938 D7 on enclosed inquiry slip

Enjoy 30 Day Free Trial!



Easily clears the most stubborn drain and sewer stoppages

The ideal plumbing service tool for maintenance men!

Comes equipped with self-contained compressor and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

(Can pay for itself in one application!)

Why lose time, suffer inconvenience, waste dollars on needlessly costly plumbing service? The Hydraulic Water Ram clears severest blocked drain lines and sewers in minutes. No chemicals, no snakes, no electric cables, no pushing through. Saves costly outside help, or expensive torn up piping. Uses IMPACT, (HYDROSTATIC) a basic scientific principle of POSITIVE HYDRAULIC POWER. Shatters hard grease, debris, other blockage into fragments, easily flushed down to main. Works perfectly, vent or no vent! Services up to 6" pipe. Works perfectly on all types of clogged toilets, sinks, sewers, etc. Can pay for itself in a single application. Nothing to wear out. Good for a lifetime. Thousands in use, including over 3,000 in government agencies. You risk nothing. Write for details on how to get free 30 day trial at our expense.

Write for Information, Prices, Details of Free Trial Offer!

HYDRAULIC MANUFACTURING CO.
Dept. ND-4 Kiel, Wisconsin

For more details circle NED-939 D7 on enclosed inquiry slip

Free FILTER Guide

New Filtration Bulletin describes 6 major automatic filtering processes for industrial application

2 to 1000 G.P.M. capacities are listed for coolants, cutting oils, paint spray booth water, wire drawing oils, quenching oils, edible oils and juices, optical blank grinding coolants, solvents and cleaners, aluminum foil rolling oils, air conditioning wash water, atomic and nuclear applications.

Delpark

Write today for your copy of Filtration for Industry

—First in Filtration Advancement

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVE. LEBANON, INDIANA

For more details circle NED-940 D7 on enclosed inquiry slip

MAKE YOUR OWN SOUND MOVIES . . . THIS EASY, INEXPENSIVE WAY

Here, in one compact, portable unit is all you need to make your own sound movies.

This new Kodascope Pageant Sound Projector, Magnetic-Optical, is both a superb sound projector *and recorder*.

Take any kind of 16mm film, sound or silent, and have a magnetic striping added for about 2½¢ per foot. Then run it through your Magnetic-Optical and record *your* own sound.

Mix voice with music, add from other sound sources, record on the spot, blend automatically. Erase, alter, re-use the magnetic stripe at will. Change your message to fit special groups, as often as you wish.

And *project* every kind of 16mm film (sound or silent) with the same ease, brilliance, fine tone, and freedom from maintenance that you get from *every* Pageant.

Interested? Write for full details.

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak

For more details circle NED-941 D7 on enclosed inquiry slip

"COMBO" UNITS Bulletin 300

REGULATORS Bulletin 301

FILTERS Bulletin 302

LUBRICATORS Bulletin 303

NEW *Crown* BULLETINS TELL HOW...

Hannifin's newest development, the Crown Line of FILTERS, REGULATORS and LUBRICATORS, saves money wherever air power is used. The filters remove dirt and scale without robbing you of precious power. The regulators let more air through when it's needed than other regulators do. The lubricators operate on minimum pressure differential—they are quicker and easier to fill, too. Available now—local, distributor stocks in many areas. Write for bulletins, for name of nearest distributor.

COMPLETE RANGE OF SIZES

HANNIFIN

Hannifin Corporation, 527 S. Wolf Road, Des Plaines, Ill.

FILTERS • REGULATORS • LUBRICATORS

For more details circle NED-942 D7 on enclosed inquiry slip

CY-CO-TROL® CUTTER GUARDS

safety maintenance of multiple tooth cutters

← PROTECTS OPERATORS HANDS
← PROTECTS CUTTER BLADES
← PROTECTS FINISHED PARTS OF MACHINE
← ELIMINATES costly applications of hot-dip plastic material directly to your cutters.

Cutter Guard holds to cutter by a spring pressure band to which segments are fastened and CUTTER GUARD UNIT IS COMPLETELY COATED WITH A TOUGH PLASTISOL MATERIAL which gives ultimate protection to cutter teeth. CY-CO-TROL CUTTER GUARDS are available for any size cutter, from 4" in diameter to 20" in diameter. Guards for cutters of larger diameters, guards for cut-off saws, or special shaped cutters can be supplied on special order.

Write for Catalog

ROYAL design and manufacturing, Inc.

4133 E. TEN MILE RD., CENTER LINE, MICHIGAN

For more details circle NED-943 D7 on enclosed inquiry slip

CESCO...RIGHT—BEFORE YOUR EYES!

NEW lightweight, fiber glass CESCO Face Shield

No. 438-FT Face Shield

• The new CESCO No. 438-FT Face Shield is strong, rugged and light in weight. It is constructed of translucent fiber glass material and is easily tilted off the face. It has a wide range of uses where full facial protection is desirable.

The new face shield may be equipped with a new plastic headgear which adjusts to the required head size with just a turn or two of the ratchet. The new headgear is now available on all CESCO helmets and face shields.

CHICAGO EYE SHIELD COMPANY
2322 Warren Boulevard
Chicago 12, Illinois

CESCO FOR SAFETY

Ask your CESCO Safety Equipment Distributor to show you this new face shield and the many other new safety features of the CESCO line

For more details circle NED-944 D7 on enclosed inquiry slip

New Literature & Catalogs

Milling Machine

Van Norman Machine Co.—Cutter head of ram type milling machines permits horizontal, vertical and angular milling, all without attachments. They are described in 12-page illustrated catalog. Adjustable cutterhead is standard equipment on nine machines described.

For more details circle NED-945 D7 on enclosed inquiry slip

Overhead Doors

Barber-Colman Co.—Weather-King flush door sections with insulation and weatherproof facing are among Barcol Overdoor products described in illustrated 16-page catalog 1406-16. Also covered are panel doors, electric operators, radio and special controls and Wardrobe doors. Specifications and installation instructions are included.

For more details circle NED-946 D7 on enclosed inquiry slip

Printed Circuit Laminate

Formica Corp.—Cirprint copper-clad laminate developed for radio and television printed circuits is subject of illustrated 4-page folder 755. It has average lengthwise flexural strength of 18,000 psi and is offered in 1/32 to ¼-in. thicknesses. It has cold punching qualities up to 1/16-in.

For more details circle NED-947 D7 on enclosed inquiry slip

Abrasive Blast Cleaning

Pangborn Corp.—Automated techniques for high speed abrasive blast cleaning, construction features of Rotoblast units, layout aids and a section on abrasive coverage are featured in 20-page bulletin 703. Specifications, dimensions and illustrations for 1½ to 27-cu ft sizes are included.

For more details circle NED-948 D7 on enclosed inquiry slip

Machine Tools & Coolants

Cincinnati Milling Machine Co.—72-page illustrated general catalog M-1961 contains general information and specifications for an extensive line of milling, broaching, cutter and tool grinding, grinding, selective hardening, metal forming and special machine tools. Also covered are cutting fluids and grinding wheels.

For more details circle NED-949 D7 on enclosed inquiry slip

Electric Cord Sets

Royal Electric Corp.—Extensive line of electric cord sets is described and illustrated in 32-page catalog 3-57. Included are Powr-Kord heavy duty two and three-wire, 125 and 250-v extensions; range and dryer cords; cube tap extension; trouble lights; floodlight holders; and a section on special and custom connectors, molded strain reliefs, and attachments for original equipment.

For more details circle NED-950 D7 on enclosed inquiry slip

Continuous Weigher-Feeder

Omega Machine Co.—Hi-Weigh model 37-20 belt type gravimetric feeder is described and its advantages presented in 4-page illustrated bulletin 35-N62. The Sens-A-Gram mechanical controller is detailed and dimensional and performance figures are given. Unit feeds at over 3000 lb per minute.

For more details circle NED-951 D7 on enclosed inquiry slip

Laboratory Instruments

Nurnberg Thermometer Co.—Catalog 57 lists a complete line of thermometers and hydrometers for research and industrial use. Described are current ASTM thermometers and hydrometers as well as allied testing instruments.

For more details circle NED-952 D7 on enclosed inquiry slip

Float Valves

Golden-Anderson Valve Specialty Co.—Cushioned float valves which maintain accurate water level in elevated tanks, reservoirs, coagulating basins and mixing chambers are subject of illustrated 16-page technical bulletin W-5. They are designed for hot or cold water service. Dimensions, sizes, operation, installation and other data are included.

For more details circle NED-953 D7 on enclosed inquiry slip

Engravers & Accessories

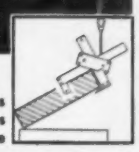
Mico Instrument Co.—Improved line of pantograph engraving machines and accessory items is illustrated and described in 16-page catalog 57. Also detailed are Mico cutter grinder, nameplate edging machine, sensitive drill press and hand tapping machine. Various types for engravers are shown.

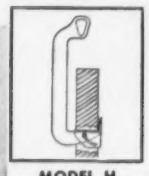
For more details circle NED-954 D7 on enclosed inquiry slip

One-Motion Reel Loading Cuts Time and Costs!

DIXON One-Man COIL GRAB

MODEL A COIL GRAB Wedge separates coils easily. Lifts and turns in one motion.





MODEL H COIL HOOK Pivoting shoe supports, turns, and locks coil in position in one motion.

The Dixon Coil Grab saves labor and speeds coil handling by enabling one man to lift, turn and load coil on the stock reel with a single, easy motion. Forged steel wedge speeds separation of stacked coils. Positive grip and support eliminate coil damage, assure operator safety. Standard models available from stock. Capacities from 1,000 to 5,000 and 10,000 to 15,000 lbs., for coil widths ¼" to 48".

ALL MODELS AVAILABLE FROM STOCK

FREE BULLETIN Illustrates standard models and shows how to handle all coil sizes safely, rapidly, without damage. Write for it today.

DIXON

DIXON AUTOMATIC TOOL, INC.
2302 — 23rd Avenue
ROCKFORD, ILLINOIS

AUTOMATIC PARTS HANDLING AND ASSEMBLY EQUIPMENT

For more details circle NED-955 D7 on enclosed inquiry slip

CAR-DOX UNITS EXTEND AUTOMATICALLY TO ENCLOSE END OF TRUCK. FRONT CURTAINS (TOP AND SIDE) ADJUST QUICKLY TO PROVIDE FULL PROTECTION.

FOR PROTECTION AGAINST...

RAIN, DUST and TEMPERATURE LOSS

Specify Frommelt Truck or Rail

CAR-DOX

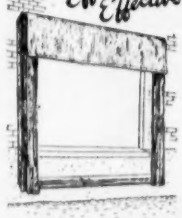
Retractable All-Weather Dock Protectors

Constructed of heavy duty fabric with high resistance to wear, water, mildew and fire (U. L. Approved finish), fitted over heavy gauge steel frames. The extension—retraction feature is so well designed that one man can position unit in a matter of minutes. Units completely enclose end of truck (or space from dock to RR. Car) so that temperature control is more easily maintained—and, to provide maximum protection from inclement weather to personnel and merchandise.

Reduces loss due to weather damage, speeds loading and unloading.

Frommelt CAR-DOX meet the requirements of the U. S. Dept. of Agriculture for the loading and unloading of foods and food products.

Practical Efficient Effective



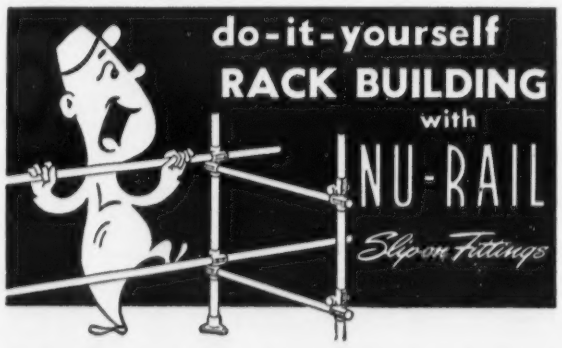
UNIT RETRACTS EASILY AND COMPACTLY—AND IS READILY SECURED CLOSE TO FRAME.

"See us at Booth No. 1360" "Material Handling Exposition" April 29th-May 3rd, Philadelphia, Pa.

For detailed information and prices WRITE FROMMELT Industries BOX 165 • DUBUQUE, IOWA

• FABRICATORS OF APPROVED SAFETY PRODUCTS •

For more details circle NED-956 D7 on enclosed inquiry slip



NU-RAIL Fittings just slip on, are easily locked to standard pipe. Patented offset design makes construction easy — allows pipe to cross in the fittings without cutting at intersections. Heavier loads supported because longer pipe-lengths make framing stronger; pipe is unweakened by threading or questionable welds. Eliminate excessive pipe-cutting. Plant maintenance men can install —you save up to 80% on labor cost! Write for details.

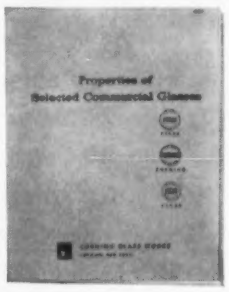
THE HOLLAENDER MANUFACTURING CO.
3839 SPRING GROVE AVE. • CINCINNATI 23, OHIO

For more details circle NED-957 D7 on enclosed inquiry slip

How to find out where glass can help you

Glass can take many forms that can help you. There are 65,000 different combinations of useful properties that can be formulated to your own specifications here at Corning.

Glass can be transparent or opaque, a conductor or a nonconductor of electricity, it is immune to corrosion, can be made immune to heat and cold, can stand as a barrier to atomic radiation. It can be many things to many people.



This 12-page Bulletin, "Properties of Selected Commercial Glasses," describes in detail a few of the Corning high-production glasses. It discusses their mechanical properties, resistance to thermal stresses, heat transmission characteristics, electrical properties, corrosion resistance, the basic information you need to determine your need for glass in your products or processes.

Send for Bulletin B-83. Write Technical Products Division.

CORNING GLASS WORKS
56-4 Crystal Street, Corning, N.Y.
Corning means research in Glass

▲ For more details circle **NED-958 D7** on enclosed inquiry slip ▲

Now! Immediate Delivery

ON BOKUM SWING BORING TOOL HOLDERS . . . *Complete Line*

All Sizes for All Machines

New, precision-engineered Tool Holders for Bokum Boring Tools are now immediately available from stock in eight models . . . with holder shank diameters ranging in size from ⅝" to 1¾".

Bokum-designed for use on screw machines, turret lathes and multiple spindle automatics, these improved tool holders eliminate many secondary reaming operations, keep set-up time to a minimum, maintain rigid support, hold concentricity and accuracy in boring operations. They're made of alloy steel, specially heat treated and they're adjustable to boring positions of .001"

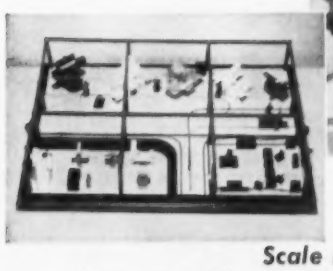
Write for Supplement No. 1, Catalog 483-T or, better yet . . .

PLACE YOUR ORDER TODAY!

BOKUM TOOL CO. INC. 14775 Wildemere Ave. Detroit 38, Mich.

▲ For more details circle **NED-959 D7** on enclosed inquiry slip ▲

MODELS INTEREST YOU?



Scale models, that is!

Models are rapidly replacing templates, to get better and faster plant layouts. Reproductions of the layout are made by photography. We can model part or all of your plant (building, machines, benches, etc.) for 2¢-4¢/sq. ft. depending on congestion and size.

Scales: 1/8, 3/16, 1/4, 1/2" to the foot.

Industrial Models, Inc.
A team of engineers and craftsmen
23 Sconset Road, Wilmington 3, Delaware
New York — Cleveland — Pittsburgh — Cincinnati
New Orleans — Houston — Los Angeles
The Hague, Holland — Manchester, England

▲ For more details circle **NED-960 D7** on enclosed inquiry slip ▲

New Processes & Materials

MAGNETIC CORES
toroids wound of iron-nickel alloy

Usable in magnetic amplifier reactors, transductors, current transformers and other magnetic devices, Hipermag magnetic cores afford high gain and sensitivity. They are toroids wound with 1, 2 and 4-mil Hipernik V magnetic material. This iron-nickel alloy has a high degree of crystal orientation, temperature stability and high remanent flux accompanied by low coercive force. When shock resistance is required or when unit is to be encapsulated, cores are hermetically sealed in a nylon or aluminum case and filled with silicone oil. Cores operate in a temperature range of −60 to 125° C, and nylon cases remain stable within these temperatures. Cores are available in ⅝ to 4-in. ID, ¾ to 5¼-in. OD, and 3/16 to 2 in. high. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

▲ For more details circle **NED-961 D7** on enclosed inquiry slip ▲

MOLYBDENUM LUBRICANT
extreme pressure grease type

Strong affinity for bonding to metal without building an excessive accumulation on the surface is claimed for type GX Molykote, a molybdenum disulfide lubricant. A refinement of the type G product, it makes use of a smaller quantity of more finely ground particles. Decrease in particle size brings more molybdenum disulfite into contact with the metal. Made by **Alpha Molykote Corp.**, 66 Harvard Ave., Stamford, Conn.

▲ For more details circle **NED-962 D7** on enclosed inquiry slip ▲

RIBBED FLOOR MAT
scrapes dirt from worker's shoes

V-rib design of this rubber floor mat removes dirt from shoes with a "windshield wiper" action. Ribs also provide friction surface to prevent slipping or sliding. Mat is available in Cross Rib Runner with straight horizontal pattern or in illustrated horizontal-vertical checkerboard pattern Shag-O-Rug. Available in several attractive colors, mats are made of live rubber or Niru synthetic to resist grease, oil and chemicals. Made by **Wear Proof Mat Co.**, 2156 Fulton St., Chicago 12, Ill.

▲ For more details circle **NED-963 D7** on enclosed inquiry slip ▲

More horsepower-hours per dollar!

NEW!
ONAN
SHORT STROKE
ENGINES

Model CCK, 12.9 H.P., two-cyl., gasoline-powered.

Add the powerful sales features of Onan long-life engines to your equipment at no extra cost. Designed and built for continuous service; run hundreds, *even thousands of hours* with minimum attention. Compact, smooth-running.

Onan air-cooled engines are today giving outstanding performance and sales appeal to equipment such as portable welders, air conditioners, truck refrigeration, pumps, etc. Build competitive advantages into your equipment with Onan long-life, air-cooled power.

THREE MODELS—**Model CCK**, 12.9 H.P., two-cylinder, gasoline-powered. **Model DRP**, 15 H.P., two-cylinder, Diesel-powered. **Model AJ** 5.5 H.P., one-cylinder, gasoline-powered.

Write for Specifications!

D. W. ONAN & SONS INC.
3631 Univ. Ave. S. E., Minneapolis 14, Minn.

▲ For more details circle **NED-964 D7** on enclosed inquiry slip ▲

"RODGERS PLATEN PRESS GIVES US *FAST CYCLING* WITH *COMPLETE SAFETY*"
—SAYS VEIT AND YOUNG

Rodgers 400-ton platen press in use at Veit and Young, Huntington Valley, Pa., metalworking specialists. The press is equipped with die cushion, fast cycling cylinders and other accessories. Some of the products formed are stacked by the press.

Production has been increased in drawing and forming large serving trays and electrical panels by Veit and Young with their Rodgers Platen Press. Safety controls permit operators to concentrate on speed and accuracy. They are working type 303 stainless steel, brass, carbon steel, aluminum—from 1/32" to 1/8" thick with bends up to 90°.

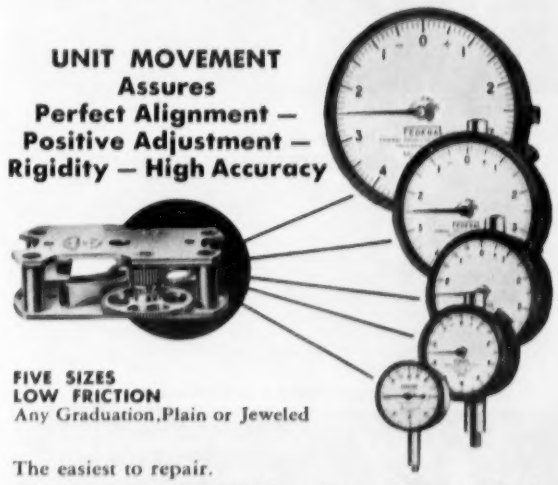
Auxiliary cylinders lower and raise platen quickly for fast cycling. Forming pressures are pre-set from 80 to 400 tons—die cushion up to 50 tons. Simple, fast adjustments govern all platen, pressure and time cycles. If you work in metal, plastic, rubber, veneers—you can mold, draw, form—*faster* with a Rodgers Platen Press. Capacities 10 to 600 tons. Send for Rodgers "Blue Ribbon" Platen Press Catalog.

Rodgers Hydraulic Inc.
7425 WALKER STREET • MINNEAPOLIS 26, MINN.

▲ For more details circle **NED-965 D7** on enclosed inquiry slip ▲

The MOST for Your MONEY
That's Why More People Standardize on
FEDERAL
DIAL INDICATORS

UNIT MOVEMENT Assures Perfect Alignment — Positive Adjustment — Rigidity — High Accuracy



FIVE SIZES
LOW FRICTION
Any Graduation, Plain or Jeweled

The easiest to repair.

You get the greatest selections from which to pick the right instrument.

You benefit by doing business with a Company which offers improvements and new ideas.

You get a known accuracy and dependability built up over many years.

You save the confusion of stocking and maintaining several makes of instruments.

Whatever you need in Dial Indicators and Accessories you can get from Federal (direct from our Branch Offices too). And, you'll be in line for new developments later. Tell us if you want a catalog.

LONG LIFE HEAVY DUTY New Federal Indicator (H Model). The best you can buy. Rugged, shockproof, maintenance-free, greater accuracy. Four sizes. Regular, Wetproof and Long Range models.

LONG RANGE MODELS Greatly increased range of measurement. Selection of backs, contact points, tolerance hands and dials.

WETPROOF Completely Sealed Protected from coolant, oil, oil fog, water. Also protected from dust. Cushioned movement. 4 graduations, 6 ranges. A Federal "new".

28 PAGE CATALOG
all Dial Indicators
Yours for the asking . . .

FEDERAL PRODUCTS CORPORATION
7174 EDDY STREET PROVIDENCE 1, R. I.

Ask **FEDERAL** *First*
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle **NED-966 D7** on enclosed inquiry slip ▲

World's Finest BALL-BEARING SCREWS!

Ideal for automation and actuation. Custom machine-ground and stock rolled-thread types.

EXCLUSIVE SAGINAW THREAD DESIGN AND MULTIPLE CIRCUITS ASSURE GREATER EFFICIENCY, DEPENDABILITY, LONGER LIFE

Saginaw b/b Screws save power by requiring only 1/3 as much torque as conventional Acme screws for the same amount of linear output—yet the rolled-thread types are competitive in price! Both types permit positive positioning within thousandths of an inch plus perfect synchronization. Units have been built from ⅛ TO 10 IN. IN DIAMETER, 1½ IN. TO 39½ FT. LONG. Saginaw Steering Gear Division of General Motors, Saginaw, Michigan (Dept. 2P).

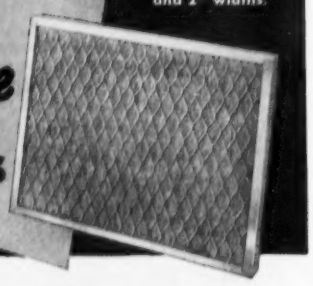
WRITE TODAY FOR NEW 1957 DATA BOOK

Saginaw b/b Screws

▲ For more details circle NED-967 D7 on enclosed inquiry slip ▲

save money on air cleaning with Aluminum-O-Aire permanent, dry-type FILTERS

All standard sizes ½", 1" and 2" widths.



OUTLASTS ORDINARY FILTERS— CUTS MAINTENANCE EXPENSE, TOO!

Here's the filter you can depend on for efficient, economical service on any air cleaning task. ALL metal construction withstands years of use under normal conditions. Washes clean with water, yet it *won't* rust. Fireproof. Requires no oils or adhesives. Aluminum wool media does *ALL* the filtering. No more expensive solutions to buy; ends pyramiding replacement filter costs. Available with copper wool media for use in corrosive atmospheres.

Write for free folder and performance data.

Carey Electronic Engineering Co. METAL WOOL DIVISION 1893 Clifton Avenue Springfield, Ohio

▲ For more details circle NED-968 D7 on enclosed inquiry slip ▲

PUMP LIQUIDS GASES SLURRIES

WITHOUT CONTAMINATION OR CORROSION

Wavelike Motion of Steel Fingers Forces Material Through Tubing

Cap. 2-10 cc. per min. to 250 G.P.M.

Prices $60.00 to $550.00 depending on size and accessories

Write for Descriptive Literature

SIGMAMOTOR, INC. 33 North Main St. • Middleport, N.Y.

▲ For more details circle NED-969 D7 on enclosed inquiry slip ▲

New Literature & Catalogs

Pipe Hangers & Fittings

Hupp Corp., Huppower Div.—Described in 8-page "Installation Supplies" catalog are Globe fixtures for installing plumbing, heating, air conditioning and fire sprinkler systems in offices and factories. Data are included on pipe hangers, I-beam clamps, retaining rings, steel ceiling plates, adjustable swivel hangers and many other items.

▲ For more details circle NED-970 D7 on enclosed inquiry slip ▲

Conveyor Cleaning Brushes

Osborn Mfg. Co.—Rota-Master rotating brushes in 16, 18 and 24-in. face widths are used primarily for cleaning rubber and fabric conveyor belts. They are also suited for material spreading, dust removal and for metal finishing when used with abrasive compounds. Application and performance data on these brushes are given in 4-page bulletin.

▲ For more details circle NED-971 D7 on enclosed inquiry slip ▲

Hydraulic Power Units

J. N. Fauver Co.—Compact custom power packages for supplying hydraulic power for testing and machine operation are described in 8-page catalog H-257. Also detailed are hydraulic test stands for pressures to 10,000 psi.

▲ For more details circle NED-972 D7 on enclosed inquiry slip ▲

Office Photocopying Equipment

American Photocopy Equipment Co.—Use of office photocopying for every type of business, professional and institutional application is subject of 16-page manual. Also offered is series of case studies that show how present users are applying photocopy techniques to their needs in areas ranging from engineering to record keeping.

▲ For more details circle NED-973 D7 on enclosed inquiry slip ▲

Miniature Hydraulic Pumps

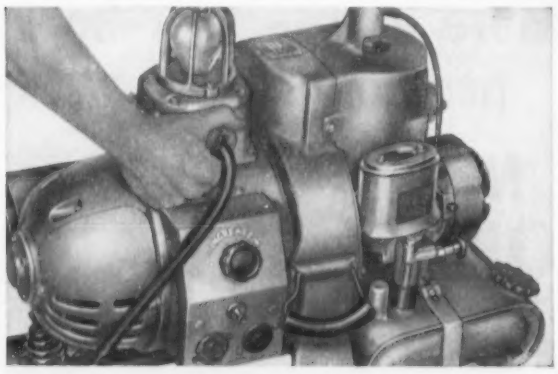
New York Air Brake Co., Watertown Div.—22-page bulletin 65W covers requirements for variable delivery pumps from ¼ to 25 gpm, 0 to 3000 psi, speeds of 1500 to 10,000 rpm and for temperatures from 65° to 275° F. These lightweight miniature pumps are designed for aircraft service.

▲ For more details circle NED-974 D7 on enclosed inquiry slip ▲

Microfilm in Industry

Dexter Folder Co., Filmsort Div.—"New Horizons with Microfilm" is a technical guidebook on the use of microfilm for simplifying office, engineering department and record room work. The Filmsort process of mounting microfilm in apertures of file, record or business machine cards and in jackets is explained. Various types of equipment for producing, reading, mounting, filing and reproducing microfilm are decribed. Case histories cite uses and advantages realized in industry, research, military and other fields.

▲ For more details circle NED-975 D7 on enclosed inquiry slip ▲



Plug in for Power, anywhere... Homelite Carryable Generators

For plant protection, emergency use, or for operating power tools and floodlights you can't beat a Homelite Carryable Generator. Lightweight and compact, you can set it up quickly anyplace. Dependable operation by built-in gasoline engine. Rugged construction throughout for long trouble-free service. Complete line available... 1500 to 5000 watts. See one in action. Write or call your nearest Homelite representative for a demonstration today.

HOMELITE A DIVISION OF TEXTRON INC. 8504 RIVERDALE AVE., PORT CHESTER, N.Y.

▲ For more details circle NED-976 D7 on enclosed inquiry slip ▲

JACO LOW COST AUTOMATIC STOCK REEL

COSTS NO MORE THAN STANDARD STOCK REELS

POWERED BY THE NATURAL SPRING OF UNCOILING STOCK

3 SIZES – ALL WILL TAKE 6" WIDE STOCK.

24" diameter $85.00

30" diameter $89.00

36" diameter $95.00

Guaranteed – money back if not 100% satisfied

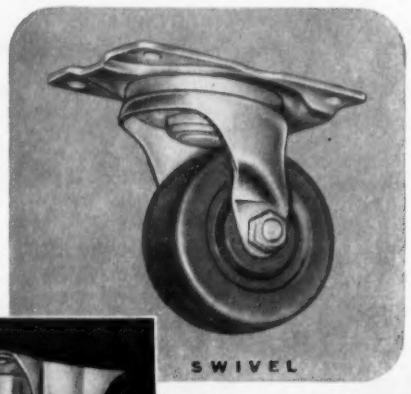
New LOW prices on the JACO 3", 6" and 12" SCRAP CHOPPER

WRITE FOR FULL DETAILS TODAY!

Dealer Inquiries Invited

JACO DEVICES, INC. 95 High Street • Hingham, Mass.

▲ For more details circle NED-977 D7 on enclosed inquiry slip ▲



SWIVEL

RIGID

WHAT'S NEW?

SERIES 17

A new caster series from Albion Industries. Designed for any application requiring light weight, high capacity, and low overall height. Recommended for furniture, food containers, dollies, portable cabinets, bins and baskets. Cadmium plated for positive rust resistance. 3" diameter wheel with choice of treads. Capacities to 300 lbs.

RIGID

SWIVEL

SERIES 21

Engineered for light and medium industrial use, with drop forged steel top plate, structural steel fork and ball bearing swivel load race. Fork base is hardened to resist wear. Cadmium plated. Choice of 3¼", 4" or 5" diameter wheels with choice of treads. Capacities to 500 lbs.

Like all Albion Industries Casters, the Series 17 and the Series 21 are *unconditionally guaranteed* to carry the static loads described in the descriptive literature. Check Albion "Load-Rated" Casters before you buy. Write for literature and complete specifications.

ALBION INDUSTRIES, INC. ALBION, MICHIGAN

▲ For more details circle NED-978 D7 on enclosed inquiry slip ▲

A CHEMICAL GOGGLE THAT WON'T FOG

Airflow Cross-Ventilated Comfort

new AIRFLOW® SAF-I-CHEM

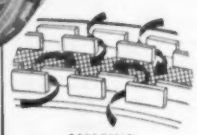
Series 29

GUARANTEED NON-FOGGING, except under most extreme conditions.

New Light Weight—Only 3 oz. Complete

FRAME of tough, comfortable vinyl in Chemical Color Code Yellow (No. 293606), or Crystal (No. 293607). Fits over widest personal glasses.

ONE-PIECE LENS, easily replaceable without tools.



AMAZING VENTILATION

4½ sq. in. of stainless steel mesh integrally molded into vinyl frame, above and below the eyes . . . covered by vinyl hood with patented baffle design . . . lets air in, keeps liquids out.

No Air Traps

Pioneers in Modern Industrial Eye Wear

Meets Federal Specifications for Chemical Goggles.

UNITED STATES SAFETY SERVICE CO.

BRANCHES IN PRINCIPAL INDUSTRIAL CITIES

Div. E-4, 1215 McGEE ST., KANSAS CITY 6, MISSOURI
IN CANADA: PARMELEE, LTD., TORONTO & MONTREAL

For more details circle NED-979 D7 on enclosed inquiry slip

Simple Design... Rugged Construction

WELLS HORIZONTAL METAL CUTTING BAND SAWS

The simple design and rugged construction of every "Wellsaw" didn't just happen. We planned it that way! Over 30 years of specialized band saw experience and know-how is your assurance of the quality and service with each machine produced by Wells Manufacturing Corporation.

There is a Wells Saw of the right style, capacity and speed to do a better, more economical job for you. Wells Saws will deliver long, dependable service. Operating and maintenance costs are very low. See your Wells Distributor.

Wells SAWS — Wells®

The Pioneers of Horizontal METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1313 Harding St. Three Rivers, Mich.

For more details circle NED-980 D7 on enclosed inquiry slip

New Processes & Materials

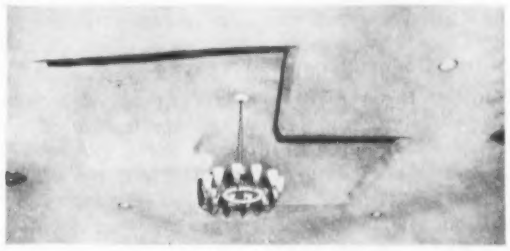
NONMARKING RUBBER used in making casters, wheels

Nonmarking, nonstaining rubber compound 27-086 is suited for an unlimited number of applications where ordinary rubbers would cause scuffing, marking or soiling of floor, wall or table surfaces. Typical use is for molded wheels of vacuum cleaners or small industrial carts or trucks. Rubber will not mark or stain carpeting or flooring when appliance or cart is dragged or drawn across the floor. Made by **Parker Appliance Co.**, Rubber Products Div., Dept. NE, 17325 Euclid Ave., Cleveland 12, O.

For more details circle NED-982 D7 on enclosed inquiry slip

CEILING & WALL FINISH has fireproof, acoustical qualities

Mechanically applied Cafco Spray type I abrasion resistant monolithic wall and ceiling finish provides sound absorption up to 0.80 NRC, thermal insulation,



and fire retarding and condensation control qualities. Spray is applied by factory trained men to assure compliance with specifications for texture, degree of hardness, thickness and efficiency. It is applied directly to any clean rigid surface such as metal, Transite, plaster, wood, wire lath, concrete or cinder blocks. Its natural white surface has high light reflectance and can be spray painted any desired color. Made by **Columbia Acoustics & Fireproofing Co.**, Stanhope, N.J.

For more details circle NED-983 D7 on enclosed inquiry slip

ANTISLIP FLOOR WAX can be used on white floors

Reformulated water-emulsion Westwax, for industrial and institutional floor use, contains highly refined light-colored Carnauba wax. Material can thus be used on light colored or even white floors without fear of discoloration. Wax also contains Mirite emulsion of hard, clear, glossy plastic which gives wax extra durability, and Ludox which adds antislip properties. Wax provides initial gloss without buffing and is scuff and water-resistant. It can be damp mopped and buffed repeatedly to retain its original finish. Coating is easily removed when desired. Developed by **West Disinfecting Co.**, Dept. DE, 42-16 West St., Long Island City 1, N. Y.

For more details circle NED-984 D7 on enclosed inquiry slip

MORSE DeLUXE 500 Portable ROTATOR

• MIXES
• BLENDS
• TUMBLES
• CLEANSES

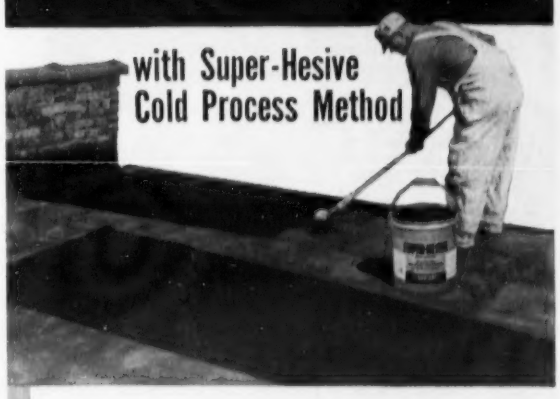
Faster and at less cost!

The patented Morse De Luxe 500 Rotator will handle 1 to 55 gal. containers, weighing to 500 lb. They revolve safely, smoothly, efficiently at 10, 20, 40 rpm on this powerful, compact, portable, motorized unit. Cuts cost of mixing, blending, tumbling, cleansing. Easily moved and loaded by one man. Has ¾" dia. power driveshaft with self-aligning ball bearings. Four adjustable 4" dia. Neoprene-tread drive wheels. Fully enclosed worm-gear drive with 30-1, 15-1, 7½-1 reductions. Weighs 137 lb. Delivered complete with motor, drive mechanism and tipping lever. Write for Bul. #1053 and catalog, showing full Morse line of Drum and Barrel handling equipment.

MORSE MANUFACTURING CO. INC.
756 West Manlius St. East Syracuse, N. Y.

For more details circle NED-985 D7 on enclosed inquiry slip

Now! Lay New Roofs that LAST



Your own plant labor can lay a better new roof, repair or recap an old one, with Garland's new SUPER-HESIVE Cold Process Method. And the cost is less than old "hot-mop" roofing methods.

SUPER-HESIVE Roofs *Stay Live and Pliant.* Rubber-reinforced for extra adhesion, SUPER-HESIVE Roofs resist sun's ultra-violet action — give long, long life. Built-in plasticizer prevents softening, blistering, or bubbling from heat — cracking or checking from cold.

EASY-TO-APPLY. No heating, fire hazard, or special equipment with SUPER-HESIVE Cold Process Method.

FREE Roofing Booklet Shows How

Write Dept. D-4

THE GARLAND COMPANY
CLEVELAND 5, OHIO

For more details circle NED-986 D7 on enclosed inquiry slip

Series 8150 Adjustable Posture Chair in use above

TOLEDO production seating

• Increases Production-Efficiency
• Improves Employee Morale
• Reduces Errors Caused by Fatigue

PRODUCTION SEATING is seating adapted to the "use requirements" of the individual at a particular operation.

The Toledo Metal Furniture Company has created the *only complete line* of comfortable, safe, rugged PRODUCTION SEATING. A wide range of features* from which to select the correct chair for your particular operation has been developed from Toledo's 60 years' experience.

*FEATURES . . . HEIGHTS (14" to 35"): Quick-adjustable—Adjustable—Fixed • FEET: 5 different kinds • SEATS: Swivel—Non-Swivel—Steel—Wood—Cushioned • BACKREST: Straight—Springback—Adjustable.

Series 146 Fixed Height Stool

Series 5306 Quick Adjustable Posture Chair

Other Series Available

FREE! This Coupon Brings Valuable Data

THE TOLEDO METAL FURNITURE COMPANY
1090 South Hastings Street
Toledo 7, Ohio

Send brochure on TOLEDO Production Seating to:

NAME.....

TITLE.....

Attach this coupon to company letterhead.

For more details circle NED-981 D7 on enclosed inquiry slip

Visit us in Booth 717 at the National Materials Handling Exposition, Philadelphia, April 29 to May 3.

"TRANSPORTATION" BULLETIN

Tells you and shows you how you can move mountains . . . of dry, pulverized, crushed and granular materials to and from, up, over, around, and under your plant to storage; from storage to processing points.

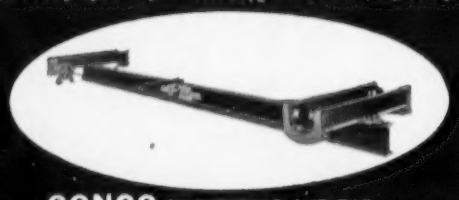
It's called Fuller Equipment for the Process Industries. Write for Bulletin G-3.

Fuller . . . pioneers in harnessing AIR

FULLER COMPANY G-130 3433
154 Bridge St., Catasauqua, Pa.
SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Chicago • San Francisco • Los Angeles • Seattle • Kansas City • Birmingham

▲ For more details circle NED-987 D7 on enclosed inquiry slip ▲

BUILD IT YOURSELF
Save time, shipping and labor. Build this factory quality crane, ½ to 5 ton capacity



CONCO UNDERHUNG AND TOP RUNNING HAND GEARED CRANE ASSEMBLIES

BUILD IT YOURSELF:
Packages include instructions, complete parts except locally available I-beam and cross shaft. Equip with Conco chain or electric hoist. Write for Bulletins 2200 and 2300 and name of local distributor.

CONCO UNDERHUNG CRANE ASSEMBLY

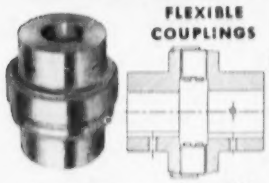
CONCO ENGINEERING WORKS
Division of H. D. Conkey & Company
57 Grove St., Mendota, Ill.

AFFILIATES:
Conco Engineering Works - Domestic Heating Equipment
Conco Building Products, Inc. - Brick, Tile, Stone

▲ For more details circle NED-988 D7 on enclosed inquiry slip ▲

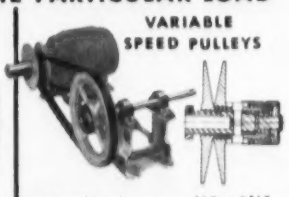
LOVEJOY POWER TRANSMISSION EQUIPMENT
JOB-RATED FOR THE PARTICULAR LOAD

FLEXIBLE COUPLINGS



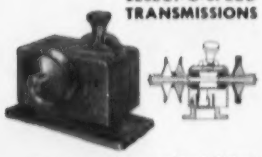
Bores (max.) ..... ⅝" to 9½"
O.D. ..... ⅝" to 21½"
Wt. ..... ½ oz. to 1500 lb.
H.P. ..... 1/20 to 3000
Torque (static). 1½ to 5100 ft.-lbs.

VARIABLE SPEED PULLEYS



Bores (max.) ..... ½" to 1⅝"
O.D. ..... 3" to 13⅝"
Belt Sizes ..... A to 2¾ TW
Speed Ratios ..... 1-1 to 8-1
H.P. (1750 rpm.) ..... ¼ to 15

SELECT-O-SPEED TRANSMISSIONS



Controls ..... Lever or Hand Wheel
Belt Sizes ..... A to C
Speed Ratios ..... 1-1 to 10-1
H.P. (1750 rpm.) ..... ½ to 7½

UNIVERSAL JOINTS

Bores ..... ¼" to 2"
Hub Dia. ..... ½" to 4"
Static Torque 340 to 130700 in.-lbs.
H.P. (100 rpm.) ..... ½ to 207

REQUEST FULL INFORMATION NOW

LOVEJOY FLEXIBLE COUPLING CO.
4803 WEST LAKE STREET • CHICAGO 44, ILL.

▲ For more details circle NED-989 D7 on enclosed inquiry slip ▲

New Literature & Catalogs

Sewage Pumps

Deming Co.—Heavy duty wet and dry pit and small vertical sewage pumps and standard and submersible cellar drainers have their descriptions, performance tables, dimensions and construction features presented in 12-page bulletin 7500. Available control equipment is also covered. Pumps handle up to 3-in. solids at up to 900 gpm with heads to 110 ft.

▲ For more details circle NED-990 D7 on enclosed inquiry slip ▲

Safety Shoes

International Shoe Co., Hy-Test Safety Shoes Div.—32-page 1957 catalog illustrates and describes over 90 Hy-Test safety shoe styles, available in more than 6500 different designs, lasts, sizes and widths. Safety oxfords, shoes and boots are grouped into separate sections, and there is a special section for women's safety oxfords. Two "Facts-about-Features" charts make it possible to learn at a glance which safety shoes are available in a specific style, for a special use or with any certain feature.

▲ For more details circle NED-991 D7 on enclosed inquiry slip ▲

Powdered Metallurgy

Bunting Brass & Bronze Co.—Advanced technical data on design, engineering and application of bearings, machine parts, infiltrated parts, plated parts and pole pieces made of powdered sintered metal is provided in 24-page handbook. Subjects covered include bore sizing, good design practice, secondary machining, specifications, lubrication, machining tools, finished parts, tolerances, chamfers and fillets and sintered metal gears.

▲ For more details circle NED-992 D7 on enclosed inquiry slip ▲

Selecting an Air Compressor

"How to Select an Air Compressor of the Right Size and Type" is related in 12-page booklet of this title which discusses air compressor ratings, displacement and "free air", volumetric efficiency, types of air compressors and types of operation. Installation recommendations, maintenance instructions and an explanation of compressed air terminology are included. Send 50 cents to Air Compressor Research Council, 27 E. Monroe, Chicago 3, Ill.

▲ For more details circle NED-993 D7 on enclosed inquiry slip ▲

Foamed-in-Place Plastics

Dayton Rubber Co.—Combination catalog and file folder that can be easily kept up to date covers the field of foamed-in-place flexible, semirigid and rigid Poly-Koolfoam urethane plastic polymers. File section is distributed with eight pages of information on two-liquid component formulations. Four-page introductory section explains how custom formulations are created to provide the desired foamed-in-place synthetics.

▲ For more details circle NED-994 D7 on enclosed inquiry slip ▲

Screw Conveyor Speed Reducers

American Pulley Co.—Selection of shaft-mounted Screw-King speed reducers, designed for screw conveyor application, is simplified by 8-page catalog SCD-57. By following directions outlined and using tables, a complete drive can be designed in matter of minutes. Units are offered in 5:1, 13:1 and 20:1 reductions for conveyors requiring up to 10 hp and speeds from 15 to 290 rpm.

▲ For more details circle NED-995 D7 on enclosed inquiry slip ▲

Lock Nut Engineering Data

MacLean-Fogg Lock Nut Co.—American Standard dimension tables on all M-F lock nuts and semifinished nuts, as well as engineering data on wrench torques and test procedures for prevailing torque type lock nuts are contained in 12-page catalog. Information is included on newest addition to M-F line, the two-way lock nut which is double chamfered with locking power in the body rather than at either crown.

▲ For more details circle NED-996 D7 on enclosed inquiry slip ▲

Vacuum Filters

General Ceramics Corp.—Installation and operating data on "Vacuum Filters" made from four different ceramic materials are given in 4-page bulletin. These include brown glazed chemical stoneware for operating temperature of 180° F; white glazed chemical porcelain for up to 200° F service; Chemplas 15, a bonded ceramic and furan resin material for 350° F; and alumina, an aluminum oxide ceramic for high temperatures and resistance to severe mechanical shock.

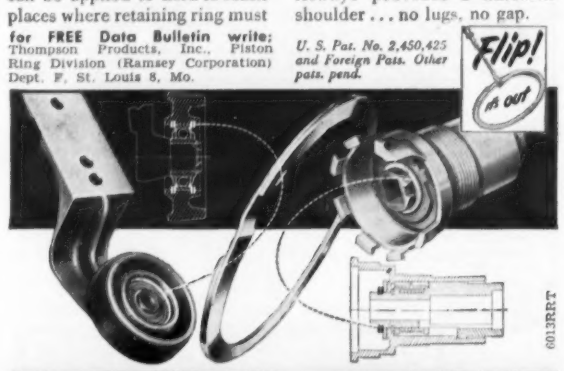
▲ For more details circle NED-997 D7 on enclosed inquiry slip ▲

ROTATING or STATIONARY ASSEMBLIES held together EASIER with
SpiroLox Retaining Rings

Conveyor roller application at left shows how Spirolox attains neat, compact, simplified design, even on rotating assemblies. Stationary application of lock assembly illustrates how Spirolox can be applied to hard-to-reach places where retaining ring must operate in very confined space. Secret of Spirolox adaptability is patented *two-turn* construction, which makes possible unique locking characteristic... will not jump out of groove. Always provides a uniform shoulder ... no lugs, no gap.

for FREE Data Bulletin write: Thompson Products, Inc., Piston Ring Division (Ramsey Corporation) Dept. F, St. Louis 8, Mo.

U. S. Pat. No. 2,450,425 and Foreign Pats. Other pats. pend.



Rotating or Stationary
SPIROLOX—the Better Way to Hold Moving Parts TOGETHER!

▲ For more details circle NED-998 D7 on enclosed inquiry slip ▲

PROTECTION FOR THE HANDS OF INDUSTRY © WIL-GARD

NEOPRENE Industrial Gloves

Recommended for service in OILS, GREASES, GASOLINE, PAINT THINNERS, CLEANING SOLVENTS

Superior to natural rubber and natural latex compounds against oils, greases, and aliphatic solvents. Long-wearing synthetic—no deterioration from age or sunlight. Curved-finger styling for maximum comfort. Smooth or Firmhold finish.

Sold only through distributors

INDUSTRIAL GLOVES
Latex, Neoprene
Natural Rubber
Buna-N
Compar Plastic
LINEMEN'S GLOVES
Natural Rubber
FINGER COTS
Latex, Neoprene

SEND FOR FREE 1957 CATALOG
TELLS HOW TO CHOOSE THE RIGHT GLOVES FOR 207 COMMON INDUSTRIAL CHEMICALS
Includes application charts and detailed data on selecting sizes, weights, and finishes.

The Wilson Rubber Company
INDUSTRIAL DIVISION • CANTON 6, OHIO
WR-457-27 A Division of Becton, Dickinson and Company

▲ For more details circle NED-999 D7 on enclosed inquiry slip ▲

If your pumping requirements involve pressures from 100 to 6000 psi, temperatures up to 300°F, you'll find John Bean's pump literature extremely helpful. Get these data-packed bulletins for handy finger-tip reference . . . or avail yourself of John Bean trained and experienced engineers for immediate action.

FREE
L-1166 Triplex Pumps, inside packed
L-1167 Triplex Pumps, outside packed
L-1168 Triplex Power End for industrial reciprocating pumps
L-1125 Vertical Duplex Pumps
L-1169 John Bean Pump Accessories
L-1106 Aquablast High Pressure Washers
ALSO CUSTOM DESIGNED PUMPS

SEND INFORMATION REQUEST FORM TODAY
(Please list catalog number wanted)

fmc FOOD MACHINERY AND CHEMICAL CORPORATION
John BEAN Division of Food Machinery and Chemical Corporation
INDUSTRIAL SALES DEPT
LANSING 4, MICHIGAN SAN JOSE 1, CALIFORNIA

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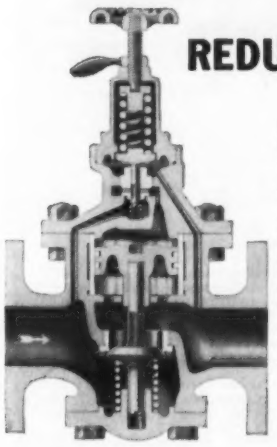
STANDARDIZE
on a complete line of PRESSURE REGULATORS and REDUCING VALVES



Class L-3 Pressure Reducing Valve

Leslie Co's recently revised Bulletin 5302-A shows a wide line of valves for pressure reduction, overflow and differential pressure regulation. Maximum interchangeability of parts and long service life make standardizing on Leslie well worth investigating. Send for the bulletin today. Over 25 lines in a full range of sizes.

TRADE LESLIE MARK

LESLIE CO., 227 Grant Avenue, Lyndhurst, New Jersey.

▲ For more details circle **NED-1001 D7** on enclosed inquiry slip ▲

SAVES TIME on lighter-duty handling and storage

Automatic small parts painting.

Now, at low cost, your smaller manufacturing and processing operations can have full benefit of overhead handling and storage. With new A-F Trol-e-veyor, you can save valuable floor space, reduce handling time. And Trol-e-veyor gives you all the advantages of proven heavy-duty designs, at a new low price!

Components immediately available from stock, installation quick and low-cost. Optional 8", 12", 16" or 20" trolley spacing. Handles loads up to 160 lbs.

Write today for our new TROL-E-VEYOR BULLETIN.

A-F **A-F Conveyors**

Engineered Conveyor Systems
Packaged Conveyors—Wheel, Roller, Belt, Trolley

The Alvey-Ferguson Co., Dept. HA-4, Cincinnati 9, Ohio and Azusa, California

▲ For more details circle **NED-1002 D7** on enclosed inquiry slip ▲

GRINDING MILL OUTPUT upped!

Performance proved! Sturtevant Air Separators, in closed circuits with grinding mills, have increased mill capacities from 25 to 300% while lowering power consumption as much as 50% in the cement industry.

Easily adaptable to your materials! Sizes of Sturtevant Air Separators, ranging from 3 to 18 feet dia., can be engineered to fit your specifications.

Cost-cutting features include rugged construction for a lifetime of low down-time service *plus* easy accessibility for quick maintenance (typified by the "OPEN-DOOR" design in other Sturtevant equipment).

Write for bulletins on Sturtevant Air Separators and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment

The "OPEN-DOOR" to lower operating costs over more years

CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

▲ For more details circle **NED-1003 D7** on enclosed inquiry slip ▲

New Processes & Materials

SKIN CLEANER
can be used with or without water

Skin is cleaned of deep-seated grease, ground-in grime and dirt by Pax waterless skin cleaner, a pharmaceutical grade product that is safe for use on tender skin, including the face. It contains lanolin and hexachlorophene, has long shelf life and can be rinsed off with water if the user desires. C-P dual purpose dispenser is available to handle the cleaner in bulk or in throw-away gallon cans, or it can be used to dispense granulated soaps, pastes or powders. Waterless skin cleaner is packaged in 6-oz tubes and 1-pint, 1-quart and 1-gallon containers. Made by **G. H. Packwood Mfg. Co.,** Dept. A, 1545 Tower Grove Ave., St. Louis 10, Mo.

▲ For more details circle **NED-1004 D7** on enclosed inquiry slip ▲

RUBBER BASE LIQUID CEMENT
withstands −40 to 200° F

Quick-setting Stick-N-Seal, a brushable, rubber-based liquid with outstanding initial tackiness and adhesion is used to hold gaskets or other assembly materials in place until fasteners can be placed and tightened. Cement is unaffected by gasoline and lubricants and resists water, glycol and kerosene. It takes pressures up to 500 psi and withstands temperatures from −40 to 200° F. Adhesive is offered in 2-oz, ¼-pt, 1-pt, gallon and 5-gallon containers. Three smallest sizes have applicators. Made by **Permatex Co.,** 1702-1720 Ave. Y, Brooklyn 35, N. Y.

▲ For more details circle **NED-1005 D7** on enclosed inquiry slip ▲

KEY STOCK KIT
key bars fit 11 different keyways

Seven machine key bars of different sizes contained in the 7-11 Mak-A-Key Kit can be filed to fit eleven different keyways. They are made of zinc-coated cold-finished steel and measure −0.000-in., +0.003-in. oversize in both dimensions to assure a snug fit. Ends are machined sharp and square. Kits contain 12-in. long bars which can be made to fit ¼ x ¼, 5/16 x 5/16, ⅜ x ⅜ and 7/16 x 7/16-in. keyways. Other sizes are also available. Made by **DeVan-Johnson Co.,** 500-N Rathbone Ave., Aurora, Ill.

▲ For more details circle **NED-1006 D7** on enclosed inquiry slip ▲

FAST SERVICE on SMALL TUBING

STRAIGHT • FORMED • MACHINED
—FERROUS AND NON-FERROUS
IN O.D.'s DOWN TO .010 IN.

If you've had trouble getting fast delivery on small tubing or small tubing components, try Uniform Tubes. We can turn out your order for 1000 or 2000 ft. of ⅛ in. o.d. or smaller overnight if necessary, with immediate delivery to local air terminals. (This is close tolerance work, too— ±.00025 in. if specified.) Not that we don't handle larger sizes, longer runs. We do, regularly, in o.d.'s up to ⅝ in.

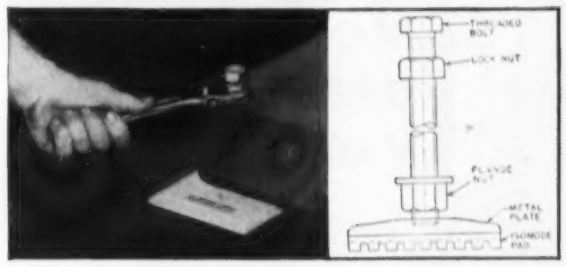
Among the many alloys drawn by Uniform are aluminum, copper, brass, phosphor bronze, nickel silver, silver, low carbon steel, 300 series stainless, A Nickel, Monel, Inconel. Write, phone, wire for fast service.

Copy of our new catalog sent free on request

UNIFORM TUBES, INC.
1200 Level Road, Collegeville 2, Pa., HUxley 9-7276
Wellesley, Mass., WE 5-1874 Chicago, Ill., SH 3-9033
Buffalo, N.Y., SPring 8481
St. Paul, Minn., MI 6-7485 Pasadena, Cal., RY 1-9534

▲ For more details circle **NED-1007 D7** on enclosed inquiry slip ▲

Now... level machines and stop vibration, too!



... with MB's Iso-Level Mounts

Easy does it. Place plate and flanged nut under machine foot, slip bolt through hole, turn nut to level, lock with upper nut.

No lagging to floor needed. The Isomode® Pad at bottom swallows up vibration and shock, prevents machine "creep." The mount saves maintenance, makes relocation of equipment easier, reduces noise.

Sizes available for loadings from 100 to 12,000 pounds per mount.

ISOMODE PADS alone are also available, in 18" x 18" sheets. They support 50 lbs/sq.in. . . . simply cut size needed. Highly economical way to control vibration and noise. They last for years. Send for bulletins AD-1 and 415.

MB *manufacturing company*
A DIVISION OF TEXTRON INC.
1066 State Street, New Haven 11, Conn.

▲ For more details circle **NED-1008 D7** on enclosed inquiry slip ▲

Here's BIG HELP IN TERMINAL WIRING!

The New **JONES FANNING STRIP**

The correct wire to correct terminal every time!

Connections are made through Fanning Strip on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.

9-141 Barrier Strip

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction: Brass terminals, cadmium plated. Heavy bakelite mounting.

9-161 Fanning Strip. Pat. applied for.

Send for complete data on this new basic improvement!

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▲ For more details circle **NED-1009 D7** on enclosed inquiry slip ▲

LUCKY FELLOW... HE'S SOLVED

A PRODUCTION BOTTLENECK!

In any plant, the soldering operation is usually the function that slows down production.

That's why it's just good sense to use the best . . . Kester . . . made by Solder Experts with over 50 years of experience. Kester Flux-Core Solder will do your job in the quickest and best manner.

Free: The Kester 78-page Text Book "Solder . . . Its Fundamentals And Usage"

KESTER SOLDER
Company
4249 Wrightwood Ave.
Chicago 39, Ill.
Newark 5, New Jersey
Brantford, Canada

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SUTORBILT

BLOWERS
GAS PUMPS
VACUUM PUMPS

Special features, such as heavy duty roller bearings, wide face herringbone gears and the exclusive Sutorbilt timing hub are all designed to assure you trouble-free service and longer operating life. Simplicity of design and rugged construction are further plus values.

Standard units are available in capacities to 20,000 CFM and pressures or vacuums to and including 10 psig. S-1

Write for the name of the representative nearest you or check your local telephone book.

SUTORBILT CORPORATION
Maywood, Calif.
SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.
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Quick, Effective Economical
IDENTIFICATION with PANNIER HAND-TYPE BAR and TUBE PRINTER

This new Hand-Type Bar and Tube Printer, will print flat, round and many-sided parts, from 5/16" up, without making a single adjustment. Inspection marks, dates, codes, trade names, etc., are printed clear and unsmudged and thousands of impressions are obtained from the even flowing ink supply.

It eliminates the necessity of moving heavy or cumbersome stock. The entire printer weighs less than 7½ pounds and can be carried to the parts to be marked with very little effort.

This printer will clearly mark all types of rigid or semi-rigid materials, such as steel, iron, aluminum, nickel, stainless, plastic, wood, rubber (hose), etc. This unit also is the answer for "MIL-STD-183," continuous identification marking of iron and steel products.

Write for complete information.

OFFICES: Chicago • Los Angeles • Cleveland • Philadelphia

MARKING DEVICES
THE PANNIER CORPORATION
301 Pannier Building Pittsburgh 12, Pa.
For more details circle NED-1012 D7 on enclosed inquiry slip

DA PRODUCTS SINCE 1910

SPONGE RUBBER
for—
• Pads
• Cushions
• Gaskets
• Mountings, etc.

TELL US YOUR NEEDS. Durkee-Atwood offers prompt sampling service on *uniform cellular structure* sponge rubber. Available in three densities . . . soft and medium (3/32" to 1" thick) and firm 3/32" to 1½" thick) . . . in standard 36" width.

TELL US YOUR SCHEDULE. Durkee-Atwood offers prompt shipping service to meet production requirements.

DOR-TITE
Sponge rubber stripping for solving countless problems. All sizes.

FREE SAMPLES—Write on your letterhead for samples of DOR-TITE and/or SPONGE RUBBER. Dept. NE-4.

DURKEE-ATWOOD CO. MINNEAPOLIS 13, MINN.
For more details circle NED-1013 D7 on enclosed inquiry slip

New Literature & Catalogs

Structural Pipe & Tube Clamp

Tubular Structures Corp. of America, Tube-Strut Div. — Storage racks, scaffolds, framework, pallet racks, material handling and storage units, and hundreds of other tubular structures are readily made with Tube-Strut universal clamps and lengths of unthreaded pipe or tubing. Clamps are available in sizes for ½ to 2-in. pipe. Single style of clamp handles all angles or pipe positions. Full details are given in 4-page bulletin TSB-2.

For more details circle NED-1014 D7 on enclosed inquiry slip

Standard Screw Thread Data

"1957 Revision of Unified and American Screw Threads" is a 12-page illustrated manual on thread standards. Tabulated are major, minor and pitch diameters for all classes, allowances and tolerances of internal and external threads up to 2 in. Briefly described are self-opening and solid adjustable insert chaser die heads. Available free by writing on letterhead to Eastern Machine Screw Corp., Truman & Barclay Sts., New Haven 6, Conn.

For more details circle NED-1015 D7 on enclosed inquiry slip

Precision Gages

Cadillac Gage Co.—40-page illustrated precision gage catalog tabulates data on reversible and standard thread plug, thread ring, concentricity, pipe thread, cylindrical plug, ring and other gages. Section is devoted to Pla-Chek micrometer adjusting height gages. Technical data are given on threads and gage tolerances.

For more details circle NED-1016 D7 on enclosed inquiry slip

Air & Vacuum Pumps

Leiman Bros., Inc.—16-page catalog No. 1957 describes rotary positive air and vacuum pumps, gas boosters and air motors. Specifications and performance data are given on types and sizes for every industrial need.

For more details circle NED-1017 D7 on enclosed inquiry slip

Steel & Carbide Cutting Tools

M. A. Ford Mfg. Co.—High speed steel and solid carbide rotary cutters, countersinks, end mills and special tools are subject of 12-page illustrated catalog 601. Specifications are given on eleven different types of mills. Supplementary price list is included.

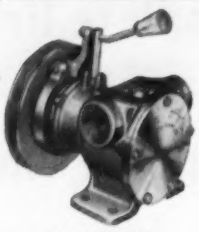
For more details circle NED-1018 D7 on enclosed inquiry slip

Underground Pipe Conduit

Porter-Hayden Companies — How Thermo-O-Tile conduit for underground piping is constructed and installed is shown in 28-page illustrated bulletin 9156. Comprised of concrete foundation, cast iron pipe supports, vitrified clay tile envelope, inorganic dry insulating materials and cemented joints, conduit is permanent, economical and long-lasting.

For more details circle NED-1019 D7 on enclosed inquiry slip

cut pumping costs with JABSCO INDUSTRIAL PUMPS



Model 2500-01
Bronze Pump and Clutch Unit—Sealed Ball Bearings—Pulley

INSTANTLY SELF-PRIMING
SIMPLE, COMPACT, ONLY ONE MOVING PART
DURABLE NEOPRENE IMPELLER
SELF-LUBRICATED
TROUBLE-FREE OPERATION

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HERE'S another Jabsco industrial pump—designed and built for chemical, pharmaceutical and other industrial applications. Ideal for transfer of various liquids and acids—sump drainage, coolant pumping, general transfer, pulp in solution, filtering, brines, plating solutions—even fluids containing foreign matter or particles, silt, crystals, and other gritty materials. Bronze, stainless steel or plastic construction is available to *solve your specific* pumping problems.

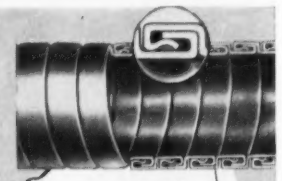
Pumps either light or heavy viscous liquids. Temperature ranges from 35° to 180° F. Write for a Jabsco factory recommendation for your own needs. Specify application, fluid pumped, temperature, pressure, etc.

FREE—send for catalog sheets, detailed information... no obligation, of course!

PATENTED AND PATENTS PENDING

JABSCO PUMP COMPANY
2031 Lincoln Street, Burbank, California
For more details circle NED-1021 D7 on enclosed inquiry slip

FLEXON REX-TUBE



EXPERIENCED FLUID CONVEYOR LOOKING FOR A JOB!

Flexible Metal Hose with vast experience gained serving industry is searching for tough challenging job. Can handle saturated steam, non-searching liquids or gases—substances such as tar, asphalt and petroleum products. Well-known for use as ducting, tubing and conduits. Will absorb vibration—expansion and contraction—misalignment. Has flexibility of hose—durability of metal. Available wide range of sizes with fittings for your needs. Welcomes work under pressure to 750 psi—temperatures to 1200°F. Excellent references. (Ask anyone who's used it.) Complete résumé sent on request.

FLEXONICS CORPORATION
Formerly Chicago Metal Hose Corporation
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario
For more details circle NED-1022 D7 on enclosed inquiry slip

Weld cast iron parts easily with improved Ni-Rod "55"

Ni-Rod* "55"* electrode now teams up *proved* high-nickel core wire with *improved* flux coating . . . gives strong, machinable welds . . . and even better resistance to fusion zone cracking.

Use A.C. or D.C. Improved Ni-Rod "55" electrode is truly *easy*-handling with stable arc, smooth bead contour. And there's less chance of chip-off with its crack-free flux coating.

Write for "Repair Cast Iron Parts Quickly and Easily." Contains helpful welding tips . . . many informative case histories. Circle the number below on the NED inquiry slip.

*Registered trademark

The International Nickel Company, Inc. • 69 Wall Street, New York 5, N. Y.

INCO Welding Products Electrodes • Wires • Fluxes
For more details circle NED-1020 D7 on enclosed inquiry slip

NEW FREE TIMESAVER
to help schedule Housekeeping Jobs

Get more efficient housekeeping from present manpower and equipment with this new work planning guide. It provides a methodical, orderly system for scheduling daily work of the maintenance crew.

Plus suggestions on building maintenance—ideas to speed the job and ease the load—tips on caring for mechanical equipment—tips on maintenance methods for various kinds of floors.

It's yours Free . . . write Today!

ADVANCE FLOOR MACHINE CO.
4102 AC Washington Avenue No., Minneapolis 12, Minn.
For more details circle NED-1023 D7 on enclosed inquiry slip

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TODAY'S SAFETY
REQUIREMENTS

Pulmosan

"NEW CONCEPT" FACE SHIELD
SERIES PS 100

FEATURING 8 PRACTICAL POINTS OF SUPERIORITY
Headframe of unbreakable, soft plastic.
Reinforced all-plastic spark deflector.
Smooth, positive slide adjustment — 6-8½ headsize
Foam Rubber snap in-out sweatband.
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Plastic bound visors.
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Featherweight — rugged — durable.

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Write for complete descriptive literature, replacement parts list and prices on Series PS 100 (illustrated) and Series 200, 500 and 600 Face Shields

For more details circle NED-1024 D7 on enclosed inquiry slip

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SABIN BARREL TRUCK

Sabin ONE MAN way of handling barrels and drums saves labor.

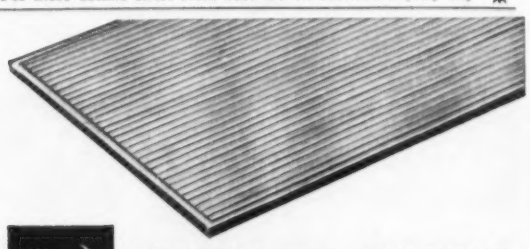
This method is simple. You run truck up to container, hook on at top and pull back on handle to pick up loads weighing as much as 800 pounds.

Third Wheel Feature gives better balance—and makes handling safer, too.

WRITE FOR BULLETIN NO. 48-A
Sales representatives wanted in several territories.

THE SABIN MACHINE CO.
6536 Carnegie Ave.
CLEVELAND 3, OHIO

For more details circle NED-1025 D7 on enclosed inquiry slip



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Wedge-Wire CORPORATION
GAS STREET AT NICKLE PLATE R. R., WELLINGTON, OHIO

For more details circle NED-1026 D7 on enclosed inquiry slip

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THERMOSTAT METALS
have high deflection rate

Thicknesses down to 0.001-in. and widths down to 0.093-in., in coils or cut-to-order lengths, are available in two thermostat bimetals. One has a useful deflection range of −100 to 700° F, with maximum sensitivity from 0 to 300° F. It has high deflection and torque rates, good strength properties up to 800° F, high electrical resistivity and good corrosion resistance. Other metal has wide range of linear deflections between −50 and 700° F, with maximum sensitivity from 200 to 600° F. It also combines high deflection rate with high torque rate. Thermostat elements can also be fabricated into the variety of shapes shown by **American Silver Co.**, Dept. NED, 36-07 Prince St., Flushing 54, N. Y.

For more details circle NED-1027 D7 on enclosed inquiry slip

BONDING AGENTS
for joining various materials

Durable, impact resistant bonds of almost all metals, plastics, wood, glass, concrete and other materials can be made with Resiweld Plastic Alloys. The five permanent bonding agents resist sag or flow and are suitable for filling cracks, sealing, patching, cauking seams and other applications where a heavy build-up of material is necesary. Made by **H. B. Fuller Co.**, Dept. 6, 181 W. Kellogg Blvd., St. Paul 2, Minn.

For more details circle NED-1028 D7 on enclosed inquiry slip

PLASTIC LOOSE-LEAF BINDING
pages inserted or removed easily

Plastic back that slides off the molded track of GBC loose-leaf plastic binding opens the rings for easy insertion or removal of pages. Simple machine punches the material to be bound with the correct hole pattern. Binding element is then inserted though the punched hole, and the plastic back slips into place to lock the binding. Pages lie flat. Catalogs, data books, price lists and other literature can be kept up-to-date readily. Binding is offered in ⅜ and ½-in. sizes in red, black, blue, white and green. Developed by **General Binding Corp.**, 806 W. Belmont Ave., Chicago 14, Ill.

For more details circle NED-1029 D7 on enclosed inquiry slip

READ LOW TORQUE DIRECTLY

Model 6000B-1 clockwise dial Model 6000B-4 counterclockwise dial Model 6500C-1 bi-directional dial

on large watch-face
TORQUE WATCH

Features
Easy-reading dial ..... 300° linear scale.
Compact ..... 1⅝" dia., 3-7/16" long.
Accurate ±5% std., ± 1% special order.
Light weight ..... only seven ounces.
Unbreakable crystal and face.
Chucks ..... ¼" or ½" capacity.

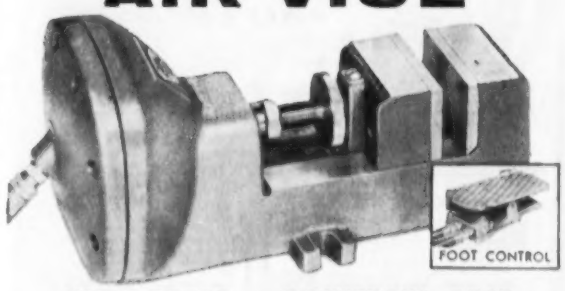
Six Models:
6000B-1 ..... .01 to 1.2 oz. in. CW.
6000B-2 ..... 1.0 to 20 oz. in. CW.
6000B-3 ..... .01 to 1.2 oz. in. CCW.
6000B-4 ..... 1.0 to 20 oz. in. CCW.
6500C-1 ..... .05 to 1.2 oz. in. Two-way.
6500C-2 ..... 1.0 to 20 oz. in. Two-way.

Additional ranges available on special order. Write today for data sheet describing all Torque-Watch gauges.

Waters MANUFACTURING, Inc.
APPLICATION ENGINEERING OFFICES IN PRINCIPAL CITIES
Wayland, Massachusetts
P. O. Box 368, So. Sudbury, Mass.
MFG. INC.

For more details circle NED-1030 D7 on enclosed inquiry slip

Speedy
AIR VISE



HIGH SPEED · POWERFUL GRIP

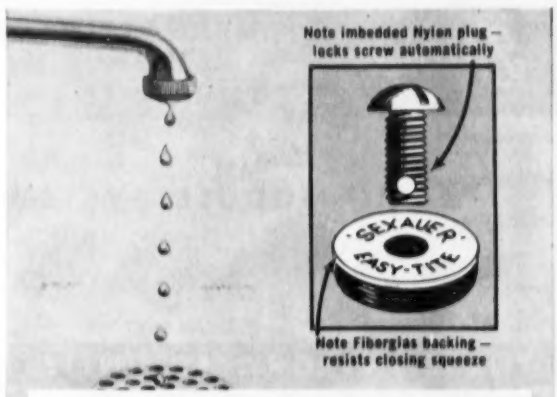
New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... $44.00

SPEEDY 1-TON AIR PRESS
Does the work of expensive presses! Power factor 15 times air line pressure. 5-inch throat; Ram 0 to 5"; stroke ⅝"; table 5" x 5". Operated by foot or fingertip controls. $85.00

Order from Your Supplier or Write for Air Tool Catalog
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

For more details circle NED-1031 D7 on enclosed inquiry slip



Why Faucets Leak

—9 out of 10 washers are fastened with TOO LONG or SHORT —screws. The screws QUICKLY LOOSEN, thus loose washers —are destroyed thru grind and squeeze of opening and —closing faucets.

34 years of research uncovers new solution

—Now, NEW (Patented) 'Sexauer' SELF-LOCK Monel screws, —with an imbedded expanding NYLON PLUG, lock at the —required depth AUTOMATICALLY—hold washers FIRMLY!

—Made of rustproof, non-corroding MONEL, heads don't —twist off or screw slots distort. They are easy to remove —when necessary, can be used over and over.

—Used with NEW 'Sexauer' EASY-TITE faucet washers, this —combination outlasts past faucet repairs "6 to 1"! EASY-TITES are made of super-tough, pliable du Pont compound —(neither rubber nor fiber) and reinforced, like a tire, with —a vulcanized layer of Fiberglas, they resist distortion and —splitting from shut-off grind and squeeze.

The hidden costs of faucet leaks!

Faucet leaks are costly! As authenticated by Hackensack, N. J. Water Co. and American Gas Association, STOPPING just ONE PIN-HOLE SIZE (1/32") LEAK can reduce water waste 8,000 gal. quarterly. If a HOT WATER FAUCET LEAK, water and fuel savings JUMP to over $7.58 QUARTERLY—plus additional savings on MATERIALS—LABOR—and *costly* FIXTURE REPLACEMENTS!

NEW SELF-LOCK screws and EASY-TITE faucet washers are just TWO of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW 126 page Catalog "H" available. He will gladly consult with you regarding a SURVEY of your plumbing fixtures to determine correct repair parts required and establish reasonable stock levels that avoid both overstocking and shortages—thus providing for efficient stock arrangement and control—all without obligation. WRITE TODAY!

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My name ..... Title .....
Company or Institution .....
City ..... Zone ..... State .....

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

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FAMOUS Palley CATALOG SOON TO BE RELEASED!

396 PAGES PACKED WITH BARGAINS

ALL NEW 1957 CATALOG... GREATER THAN EVER BEFORE FULLY ILLUSTRATED

THOUSANDS UPON THOUSANDS OF INDUSTRIAL, COMMERCIAL AND CONSUMER ITEMS AT GREATER SAVINGS THAN EVER BEFORE! New Merchandise! Top Quality GOV'T SURPLUS!

HYDRAULIC Cylinders, Pumps, Motors, Fittings, Tubing, Gauges, Instruments and Complete Assemblies of every description. A tremendous selection of Gov't Surplus as well as our own Custom Made line. And just wait until you see these prices!

TOOLS – SUPPLIES – EQUIPMENT in Electrical, Mechanical and Building lines. Aircraft Parts and Supplies. Electric Motors, Generators and Portable Power Plants. Pumps of all types. Tons and tons of Hardware. Fans, Blowers, Ventilators, etc.

WATCH THIS AD FOR ANNOUNCEMENT OF THE PUBLICATION DATE!

SAVE! SPECIAL GOV'T SURPLUS

2500 lb. WINCH HOIST

Ideal for use in garage, shop, boat yard, farm, on trucks, etc. Has bronze, worm gear drive with 24 to 1 gear ratio and 3-speed crank. Comes with 18 ft., 3/16", high tensile, steel cable. 29.50
WINCH HOIST – Same as above but has free-spool, pull-out clutch. 32.50
MOUNTING FRAME – for both hoists – 4.50

NOTE: We carry a complete line of hoists from small portables to huge, heavy duty types. Write for details.

SPECIAL 40,000 lb. THRUST HYDRAULIC CYLINDER

A GOV'T SURPLUS BARGAIN! This cylinder may be oil or air operated. Produces up to 40,000 lb. thrust with oil, on a 3000 PSI line pressure. May also be used as a low pressure air cylinder. Has a 4" bore and 18" stroke. 30½" long overall. Has been Navy overhauled. LIKE NEW! 49.95

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Has a heavy duty, solid cast Bronze body. Rotates from 90° to 180° as desired. Has 29/32" diameter steel shafts with a ball and socket joint. In excellent condition. Ready-to-use!!! $5.95

Write TODAY for complete list of many other types of universal joints, hoists, hydraulics, etc.

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For use where tremendous power at a low take-off RPM is desired. Has 6 gears rotating on self-lubricating, hi-speed roller bearings. 85 to 1 gear ratio. Shafts are 1 1/4" and 3/8" diameter.
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NEW in excellent condition NOW 8.95

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ALLOY STEEL Finest quality Alloy Steel cable. Rust & corrosion resistant.		STAINLESS STEEL Aircraft Quality. Rust & Corrosion Proof. You can not beat this Bargain.	
7 × 7 STRAND		7 × 19 STRAND	
Size	Price per ft.	Size	Price per ft.
1/16"	5¢	1/16"	7¢
3/32"	6½¢	3/32"	14¢
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5/32"	10¢	7/32"	29¢
3/16"	12½¢	1/4"	38¢
1/4"	13½¢	5/16"	47¢
9/32"	14½¢		

SAVE ON NEW NYLON ROPE

Very Finest Nylon Rope. Top Quality. Available in Sizes of 1/8" to 1" diam. Prices as low as 5¢ per running foot. Write Today for complete price list.

Palley's

Order From This Ad – P.O.'s accepted from well rated D&B firms. Prices are F.O.B. our Los Angeles Warehouse.

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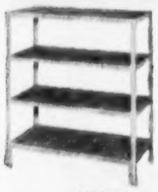
Bathey VERSATILE SHOP EQUIPMENT

New... MODULE SYSTEM



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3 PAN SIZES

THESE INTEGRATED UNITS

Will Make THIS or THIS

STORAGE

WORK STATION

Write for Catalog

B-3 DEALERS IN PRINCIPAL CITIES

BATHEY MFG. CO.

100 S. MILL STREET PLYMOUTH, MICH.

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The idea that solved 1000 "headaches"

The famous SBS-60 upside-down hand picture first appeared about a year ago. It dramatically illustrates how SBS-60 Cream Deodorant Soap is almost impossible to waste . . . and why it has solved literally thousands of soap "headaches" in hundreds of nationally known organizations.

What is your soap "headache":

. . . . soap powder spilled all over your washrooms?
. . . . bar soap wastefully dissolving on the shower room floor?
. . . . liquid soap dispensers either dripping or all clogged up?
. . . . constant work keeping dispensers filled and in order?
. . . . complaints about your soap from both men and women?
. . . . whatever your soap "headache", SBS-60 can help.

Write and we'll send complete information that tells you just how SBS-60 Cream Deodorant Soap "cures" most of today's soap "headaches". *Write us today!* We'll rush the details to you.

Write Dept. 57-D6

SBS sugar beet products co. the watchword of industry

MAIN PLANT: 302 Waller St., Saginaw, Michigan. Los Angeles, California • Newark, New Jersey. CANADIAN SUBSIDIARY: Chemical By-Products, Ltd., 22 Racine Road, Rexdale, Ontario, Canada

▲ For more details circle **NED-1035 D7** on enclosed inquiry slip ▲

New Literature & Catalogs

How Optical Instruments Cut Costs

Bausch & Lomb Optical Co.—Ways to use low-cost optical instruments to simplify and speed manufacturing and inspection operations are outlined in illustrated booklet No. D-1059 entitled "Industrial Optical Aids." Described are such items as magnifiers, microscopes, wide-field tubes, macroscopes and optical comparators. Aid is given to select proper optical device for production and inspection problems.

▲ For more details circle **NED-1036 D7** on enclosed inquiry slip ▲

Automated Parts Feeders

Arlin Products, Inc.—Various types of electronically controlled automatic feeders which can be used to supply parts to machine in synchronism with the production speed are shown and described in 20-page illustrated catalog 102-B. Elevating, orienting, rotary and other types of hopper feeders with parts delivery speeds up to 20,000 or more per hour are covered.

▲ For more details circle **NED-1037 D7** on enclosed inquiry slip ▲

Vibrators for Industry

Martin Engineering Co.—36-page engineering catalog "Vibrators" explains how these all-directional high speed vibrators are used to speed the movement of granular matter, for spot vibration, for packing, and hundreds of other uses. Available types and sizes are shown, and operating principle is explained.

▲ For more details circle **NED-1038 D7** on enclosed inquiry slip ▲

Floor Truck Guidance

Nutting Truck & Caster Co.—28-page pocket-size booklet 57-S contains capsule descriptions of trailers, drag-line trucks, dollies, jacks and skids, wagon trucks, barrel handling equipment, 27 different models of two-wheel trucks and four-wheel platform trucks, as well as various casters and wheels.

▲ For more details circle **NED-1039 D7** on enclosed inquiry slip ▲

Automatic Copying Lathe

Cone Automatic Machine Co.—The Conomatic-Pilot automatic multicycling copying lathe will produce a workpiece ranging up to 14¼-in. diameter over the bed and 7½-in. diameter over the slide, and 35 in. long to any desired shape automatically. This hydraulically controlled machine produces various contours automatically from templates. Speeds and feeds are also automatically controlled. Details are provided in 6-page folder 1EG.

▲ For more details circle **NED-1040 D7** on enclosed inquiry slip ▲

High Pressure Hose Couplings

Hose Accessories Co., Le-Hi Div.—High pressure hose couplings for air, steam, gas, hydraulic, liquid and many other services are described in 8-page illustrated bulletin No. 115. Types are shown for use in various industries.

▲ For more details circle **NED-1041 D7** on enclosed inquiry slip ▲

When you BUY a Carbide core drill INSIST on —

Cyclo-Core® MULTI-TIPPED CARBIDE ROTARY DRILL

THE Fastest up to 3 to 1 times FASTER than other core drills

for drilling HARD CONCRETE OR ANY MASONRY

Free cutting design permits faster, easier drilling. Multi-spiral flutes assure positive dust removal from cutting zone. Last longer — are easier to resharpen — you can do it yourself. Sizes from ¼" to 6" diameter. Extra lengths up to 36".
When starting holes, stop "walking" and get accurate hole location with the EXCLUSIVE New England Carbide removable "STARTING CENTERS."

New England Carbide-Tipped MASONRY DRILLS

DESIGNED, ENGINEERED and PROVEN for the job! Copied but NEVER equalled!

Send for copy of FREE "WHAT and HOW" MASONRY DRILLING MANUAL

NEW ENGLAND CARBIDE TOOL CO., INC.

55V Commercial Street • Medford 55, Mass.

▲ For more details circle **NED-1042 D7** on enclosed inquiry slip ▲

NEW HANDBOOK OF SMALL TOOLS AND ACCESSORIES

Here is our new, enlarged catalog with 1375 different items listed and described — more than 230 illustrations. Such essential tools as cutters, vises, arbors, rotary tables, chucks, collets, master copy type and other tool room and production line necessities are all within the covers of this 52-page book. Yours without obligation on letterhead request.

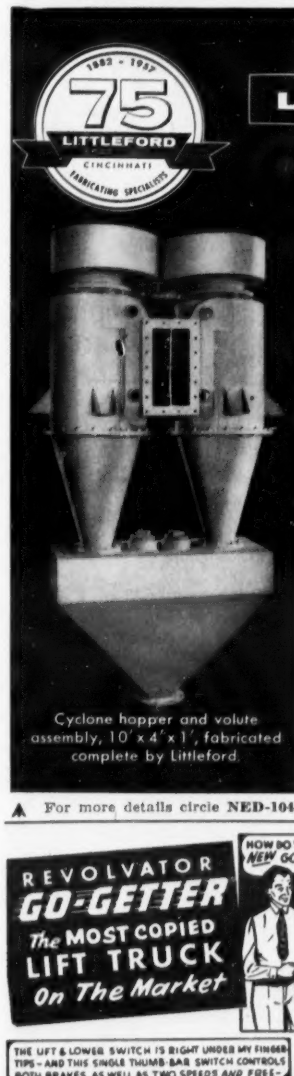
A 8929-1/9-R

GORTON

GEORGE GORTON MACHINE CO.

1904 Racine St. Racine, Wis.

▲ For more details circle **NED-1043 D7** on enclosed inquiry slip ▲



Cyclone hopper and volute assembly, 10' x 4' x 1', fabricated complete by Littleford.

LITTLEFORD

layout
shearing
punching
bending
flame cutting
assembly
welding
stress relieving
sand blasting
machining

Littleford's complete, top quality fabricating saves your time and facilities for your own specialty. Send us your blueprints for estimates on your requirements.

LITTLEFORD BROS., Inc.
Dept. LB-200,
453 E. Pearl St.,
Cincinnati 2, Ohio

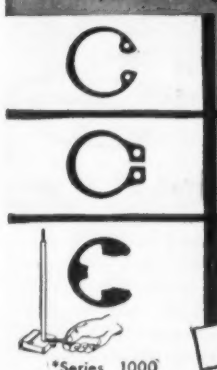
▲ For more details circle **NED-1044 D7** on enclosed inquiry slip ▲

▲ For more details circle **NED-1045 D7** on enclosed inquiry slip ▲

INDUSTRIAL RETAINING RINGS

. . . the guaranteed retaining rings that provide inexpensive shoulders for positioning product components on grooved shafts and housings.

. . . the guaranteed retaining rings that reduce production and assembly time, labor and costs; cut product weight and bulk.



SERIES 2000 Internal rings (NAS 80) applied axially into housings.

SERIES 3100 External rings (NAS 81) applied axially to shafts.

SERIES 1000* Open-type rings applied radially to shafts.

*Series 1000 rings may be ordered stacked for easy dispensing.

JUST PUBLISHED Illustrated Catalog Write today for copy and ring samples.

INDUSTRIAL RETAINING RING COMPANY
originators of modern retaining ring dispensing
57 Cordier Street Irvington 11, New Jersey

For more details circle NED-1046 D7 on enclosed inquiry slip

It was bound to be made sooner or later, and here it is . . . . . the

HINGE-LESS METAL TROUGHING CONVEYOR

Patent Pending

This is a terrific unit (max. height 14" from the floor) for conveying liquids, chips, scraps, stampings, hot and cold forgings, castings, sand, grain, chemicals, powder and many other items. Food and corrosive materials can be conveyed by switching to stainless steel troughing buckets. Dimensions of the conveyor can be adapted to suit application. Portable and stationary; load rolls on rolls.

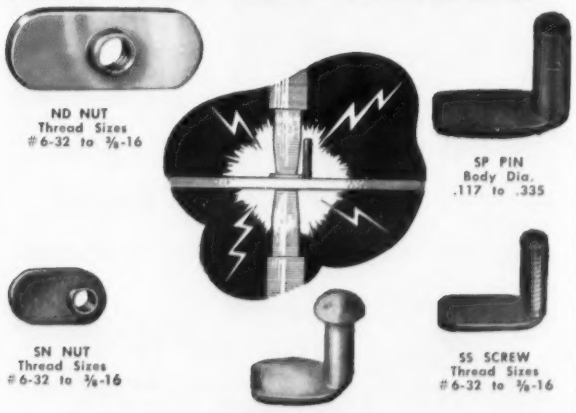
NO HINGES; NO MAINTENANCE!

P.S. The real advantage of this equipment is the elimination of troublesome hinges, and frequent maintenance. This equipment means real savings in maintenance costs.

R. T. SHEEHAN CO.
CONVEYORS
P.O. BOX 345, PLYMOUTH, MICH.
PHONE: PLymouth: 2228

For more details circle NED-1047 D7 on enclosed inquiry slip

OHIO SPOT WELD FASTENERS



If you do spot welding specify that OHIO stock spotweld parts be attached at the same time for faster, trouble-free assembly.

Samples and information available upon request.

Specialists in the Manufacture of Weld Fasteners and Adjusting Screws
THE OHIO NUT AND BOLT COMPANY
14 First Avenue Berea, Ohio

For more details circle NED-1048 D7 on enclosed inquiry slip

New Processes & Materials

PROTECTIVE COATING RESIN withstands strong alkaline solutions

Immersion in alkaline soap solution for 7200 hours leaves panel treated with Methylon phenolic coating resin unaffected (2) as compared with conventional

phenolic resin coating (1) which deteriorated after only 200 hours. Panels 3 and 4 show destructive effects of this same solution on alkyd-amine and oxidizing alkyd resin coatings after only 200 hours. All panels are treated with 1-mil coating and baked at optimum cure cycle before being immersed at 165° F. Methylon coating resins are available in intermediate or film-forming grades. Formulation suggestions and product data are available from **General Electric Co.,** Chemical Div., 1 Plastics Ave., Pittsfield, Mass.

For more details circle NED-1049 D7 on enclosed inquiry slip

ELECTRICAL TAPE has −55 to 85° C operating range

Improved type 2A Bi-Seal self-bonding electrical tape now affords an operating temperature range from −55 to 85° C. Tape never gets brittle, applies easily and fuses into a homogeneous, water-tight seal. Polyethylene-base tape is virtually nonabsorbent, will conform to complex shapes and has high dielectric strength. It is recommended for communication and power transmission wire and cable splicing, moisture-proofing bi-metal connections, sealing corrosion-resistant conduit couplings and insulating high frequency electronic circuits. Made by **Bishop Mfg. Corp.,** 128 Factory St., Cedar Grove, N. J.

For more details circle NED-1050 D7 on enclosed inquiry slip

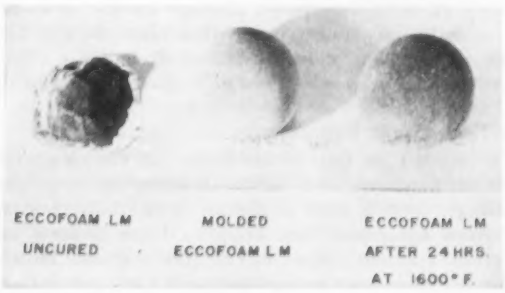
FLUX REMOVERS are nonflammable with low toxicity

Line of chemical flux removers includes four standard types with varying degrees of solvency. Type LN-10 is extremely rapid and is used on printed circuits where fast and complete removal by simple dip is essential. Type 1136 is used on parts containing decals, silk screening or fungicidal lacquers for fast removal of hot or cold residues. Type HCR removes hot residue with a simple dip. Completely neutral mild odor type 65 is a nonhydrolizing remover used to remove warm or hot residues immediately after soldering. Special removers are made to order for critical printed circuit boards and assemblies, components, inks and plastics. All are available in 1, 5 and 55-gallon containers from **London Chemical Co.,** Dept. NDC, 1535 N. 31st Ave., Melrose Park, Ill.

For more details circle NED-1051 D7 on enclosed inquiry slip

CERAMIC FOAM withstands temperature of 1600° F

Structure of Eccofoam LM ceramic foam is very fine and uniform. Material can be used continuously up to 1600° F and has a density of about 20 lb per cu ft. It



is supplied in a form resembling damp sand and is packed or tamped into the cavity to be filled. Uses include filling of complex voids, embedment of electronic items, thermal insulation and as core material in sandwich structures. Compressive strength is 400 psi, dielectric constant is 1.5 and dissipation factor is below 0.005. Made by **Emerson & Cuming, Inc.,** 869 Washington St., Canton, Mass.

For more details circle NED-1052 D7 on enclosed inquiry slip

THE Sutton MOTOR DRIVEN PRESSURE BLOWER

THE WORLD'S Most Dependable PRESSURE BLOWER

THREE SIZES ¼, ½, 1 H.P.

USED FOR EXHAUSTING DUST, SMOKE, FUMES, VAPOR . . COOLING AND DRYING . . CONVEYING COTTON, WOOL, SHAVINGS . . FORGE BLASTING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY to reduce weight and increase strength. CENTRIFUGAL TYPE. Delivers even, non-pulsating flow of air. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp
112 W. WILSON AVENUE NORFOLK, VIRGINIA

For more details circle NED-1053 D7 on enclosed inquiry slip

the HOFFCO-VAC 35 outsweeps the field in the 5 h.p. range

Hoffman's modern, streamlined "Hoffco-Vac" 35 portable vacuum-cleaning unit offers you:—50% greater dust capacity (4.4 cu. ft.) . . . easy handling and compact design . . . higher vacuum (6.5 ins. mercury) . . . longer effective hose reach (one 75-foot length or simultaneously two 50-foot lengths) . . . easy maneuverability by one man even in crowded areas . . . swing-hinged inspection door with 16-inch diameter . . . pull-away dust container with its own three casters and easy-pour back . . . pre-lubricated outboard bearings, mounted in rubber . . . and roller-bearing, rubber-tired wheels. Write today for bulletin M-135, giving full technical information on this "big" little cleaner, to:—

AIR APPLIANCE DIVISION
U.S. HOFFMAN MACHINERY CORP.
Dept. NED, 103 Fourth Avenue, New York 3, N. Y.

For more details circle NED-1054 D7 on enclosed inquiry slip

Speeds Soldering

Self-Cleaning • Non-Acid • No Running

Just a few strokes of the stik does the trick. There's no mess . . . no waste. Powerful fluxing action goes right through oily and rusty surfaces. No tedious cleaning or wire-brushing . . . assures a perfect union of solder and metal. Safe to use . . . will not pit or corrode metal. For all Soft Solders.

Ask your supplier for LA-CO FLUX-Stik . . . or write us for sample.

Also in paste and liquid form. Other LA-CO Fluxes for all specialized needs. Write our Engineering Dept. for free help on your flux problems.

LA-CO BRAND
LAKE CHEMICAL CO.
3053 W. Carroll Ave., Chicago 12, Ill.

For more details circle NED-1055 D7 on enclosed inquiry slip

It's what's IN these wheels
That brings OUT big, new time-savings

A COMPLETELY NEW SLANT ON ABRASIVE APPLICATIONS

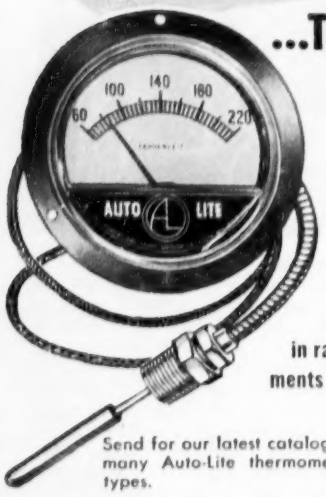
You can't tell by this picture that these Brightboy Wheels are compounded with RUBBER AND ABRASIVE (ALUMINUM OXIDE or SILICON CARBIDE) to cut finishing time tremendously — to BURR, CLEAN, FINISH, POLISH, frequently in ONE OPERATION! But the action of the rubber and abrasive quickly *shows you* a finish that's often the final polish—a one-step operation never before associated with abrasive applications. STOCK NUMBERS JOB-MATCHED TO YOUR NEEDS.
Ask your dealer for the Brightboy Catalog listing grains, textures, machine speeds, work suggestions. Write us if he cannot supply you or on any problem in which finishing is involved.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION • WELDON ROBERTS RUBBER CO.
95 North 13th Street Newark 7, N. J.
America's Pioneer Manufacturer of Rubber Bonded Abrasives

▲ For more details circle NED-1056 D7 on enclosed inquiry slip ▲

AUTO-LITE



...TEMPERATURE INDICATION

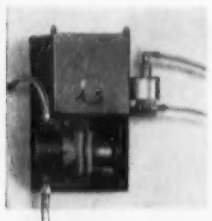
Original equipment manufacturers may choose from a complete line of Auto-Lite dial thermometer types, in ranges to meet the requirements of specific applications.

Send for our latest catalog describing the many Auto-Lite thermometer styles and types.

THE ELECTRIC AUTO-LITE COMPANY
Instrument and Gauge Division
Toledo 1, Ohio
New York • Chicago • Sarnia, Ontario

TEMPERATURE INDICATORS & RECORDERS

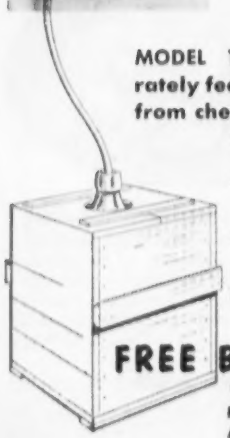
▲ For more details circle NED-1057 D7 on enclosed inquiry slip ▲



NEW! SAFE!
DIRECT FEEDING FOR LOW COST CIRCULATING WATER CONDITIONING

MODEL 19130 PROPORTIONEER accurately feeds concentrated acids directly from chemical carboys . . .

- Complete package includes foot valve which slips into mouth of small carboy.
- Eliminates excessive handling of corrosive chemicals such as nitric, chromic and sulphuric acid.
- Pumping rates are adjustable from 0.8 to 8.0 gallons per 24 hours to meet system's requirements.
- Choice of pneumatic or hydraulic operation.



FREE BULLETIN . . . Request Bulletin 1913 for complete data. Write to PROPORTIONEERS, INC., 425 Harris Ave., Providence 1, R. I.

PROPORTIONEERS
DIVISION OF
B-I-F INDUSTRIES

▲ For more details circle NED-1058 D7 on enclosed inquiry slip ▲

New Literature & Catalogs

Optical Gaging Stage

Optical Gaging Products, Inc.—File-size 8-page booklet on the "O.G.P. Multi-Use Stage" shows pictorially how various holders can be used to stage wide variety of parts on all makes of optical comparators. It includes drawings and dimensions of standard part holders and end stops available. Dimensional drawings of stage itself are also included.

▲ For more details circle NED-1059 D7 on enclosed inquiry slip ▲

Industrial Ceramics

McDanel Refractory Porcelain Co.—Industrial ceramic materials described in 16-page bulletin B1-56 include porcelain mill linings, lifter bars, special lining shapes, mill head assemblies, high density and standard porcelain grinding balls, and metal covered and ceramic lab jars for cradle or roller type lab mills.

▲ For more details circle NED-1060 D7 on enclosed inquiry slip ▲

Fans, Blowers & Exhausters

Robinson Ventilating Co.—Wide variety of heavy duty industrial fans and blowers is described briefly in 8-page bulletin 502. Pictures show custom-built fans ready for service and fans operating in different types of plants. A third section provides an index to the fans.

▲ For more details circle NED-1061 D7 on enclosed inquiry slip ▲

Ceramic Permanent-Magnet Assemblies

Storch Products Co.—Technical bulletins 1216 and 1217 descriptive of ceramic permanent-magnet assemblies are contained in 4-page folder 1215. Indox magnets are stocked in over 100,000 sizes and contain readily available barium carbonate and iron oxide as basic ingredients. Assemblies are of the two-pole and multiple-pole types.

▲ For more details circle NED-1062 D7 on enclosed inquiry slip ▲

Fuel Injection System

Cummins Engine Co.—Questions relative to construction and operation of the Cummins PT fuel injection system are answered in 12-page booklet 950138. Fuel system is adaptable to all Cummins diesel engines built since 1932. A section is also devoted to optional governor arrangements.

▲ For more details circle NED-1063 D7 on enclosed inquiry slip ▲

Teflon High Temperature Wire

Alpha Wire Corp.—Characteristics of Altemp Teflon high-temperature insulated hook-up wire which suit it for high-frequency, high temperature, miniaturizing, weatherizing and ruggedizing applications are described in 4-page catalog T-1. Extruded and spiral-wrapped insulation types are offered in put-ups of 10, 25, 50, 100, 250, 500 and 1000 ft.

▲ For more details circle NED-1064 D7 on enclosed inquiry slip ▲

Incandescent Lighting Guide

Sylvania Electric Products Inc., Lighting Div.—Covering more than 1800 types and sizes of incandescent lamps, 24-page booklet I-835 provides a convenient source of reference on the incandescent light bulb. Sections on the characteristics of incandescent lamps, structure, filaments, bulb sizes, glass types and finishes and types of lamp bases are featured.

▲ For more details circle NED-1065 D7 on enclosed inquiry slip ▲

Portable Multipurpose Hoists

Joy Mfg. Co.—Ranging in size from 0.9 to 15 hp, Joy single drum multipurpose portable hoists have lifting capacities from 750 to 5000 lb at rope speeds up to 125 fpm. Wire rope capacities range from 200 to 1500 ft. Well-illustrated 12-page booklet 3-54 carries descriptions and specifications for the Joy Line of air, electric and gasoline driven models.

▲ For more details circle NED-1066 D7 on enclosed inquiry slip ▲

Drafting Room Equipment

Frederick Post Co.—A check-up list showing every type of product used in a modern, well-equipped drafting room is now available from this company. It covers equipment and supplies from A to Z and suggests specific ways to cut down waste motion, eliminate time-consuming methods, reduce fatigue, and save space.

▲ For more details circle NED-1067 D7 on enclosed inquiry slip ▲

Heat Exchangers for Cooling

Griscom-Russell Co.—G-R K-Fin Coolers for air and hydrogen circulated through generator windings in a closed system are subject of 12-page illustrated bulletin 1200. Design features are discussed.

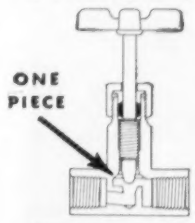
▲ For more details circle NED-1068 D7 on enclosed inquiry slip ▲

MARSH Needle Valves

MAXIMUM WORKING PRESSURE 10,000 PSI

. . . for finer regulation of water, oil or gas

First needle valve to combine all the characteristics called for in modern industry. Embodies sturdiest basic construction—machined from solid bar stock—suitable for pressures to 10,000 psi and equally efficient in lower range. Note stem guide fused to body by new "Conoweld" process, eliminating faults of conventional two-piece valves. Stem 416 stainless steel. Stem threads fine pitch for strength and micrometer regulation. Body electro-zinc plated. Sizes ⅛" to 1", globe and angle patterns.



Ask for new Needle Valve Catalog

MARSH INSTRUMENT CO. Sales Affiliate of Jas. P. Marsh Corp. Dept. 26 Skokie, Ill.
Marsh Instrument & Valve Co. (Canada) Ltd., 8407 103rd Street, Edmonton, Alberta, Canada

▲ For more details circle NED-1069 D7 on enclosed inquiry slip ▲

Another Plus . . . from Brainard

A new pneumatic stretcher to speed strapping operations . .

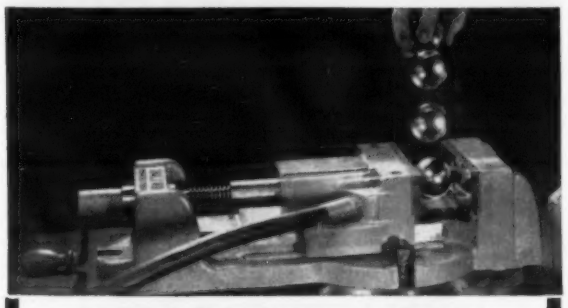
The Brainard PNE Stretcher brings increased efficiency to strapping applications using any size of tensional strapping. Unlimited takeup is provided at predetermined tensions. Degree of tension is controlled by air pressure. Operator fatigue is lessened and errors in tensioning on ordinary stretching operations are reduced. A PNE Stretcher is available for every tensional width. Each tool adjusts to all gauges in the width it handles.

For complete details on the new Brainard PNE Stretcher and other Brainard strapping materials and equipment, write . . .

Brainard Steel Strapping
SHARONSTEEL

Brainard Steel Division, Sharon Steel Corporation
Griswold Street, Warren, Ohio 238

▲ For more details circle NED-1070 D7 on enclosed inquiry slip ▲



FASTER MACHINE LOADING?
(strobe photo of steel ball falling into MM jaws)
MILOMATIC IS ON THE BALL!

In the time it takes a 1" steel ball to drop 6 inches, MilOmatic air powered hydraulic vises close automatically! This split second automatic clamping action is the perfect way to cut costs and increase production on high speed operations, in which efficiency depends on fast loading and unloading. You can use MilOmatics on any machine in your plant, as an automatic production fixture, and you can adapt them to any work piece with low cost jaw inserts. Get on the ball! Get the facts about MilOmatic today!

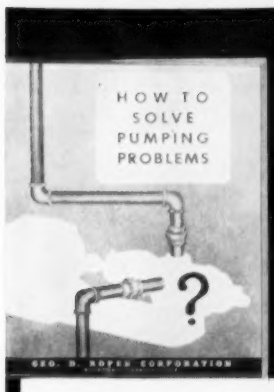
Attach this ad to your letterhead for free demonstration or new free catalog!

WILTON TOOL
MFG. CO., INC.
Schiller Park, Illinois

NED-4

Sold By Leading Distributors The World Over

▲ For more details circle NED-1071 D7 on enclosed inquiry slip ▲



for you from ROPER... this fact-packed book FREE!

32 PAGES OF READY REFERENCE INCLUDING:

- Factors on Pumping Problems
- Sample Problems Figured for Guidance
- Technical Data . . . Piping Charts
- Conversion Tables . . . Viscosity Tables

Plus other information that is helpful to you

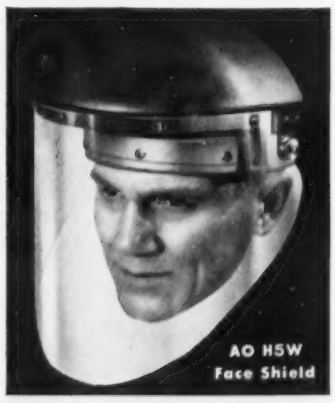
SEND FOR YOUR PERSONAL COPY TODAY!

ROPER Rotary Pumps

GEO. D. ROPER CORPORATION
664 Blackhawk Park Avenue
Rockford, Illinois

▲ For more details circle NED-1072 D7 on enclosed inquiry slip ▲

LIGHT!
COMFORTABLE!
DURABLE!



AO "H" Series Face Shields!

Features a spark deflector which blocks foreign matter from entering on top . . . a window with adequate clearance over nose and safety glasses . . . a slotted snap fastener which by allowing for heat expansion, eliminates wear at holes, and cracking, warping and distortion of face shield windows. Recommended for eye and facial exposures to metal sawing, chemical operations, buffing, sanding, light grinding, light bulb and glass bottle making, radio and TV tube exposures, bottling operations. Your nearest American Optical Safety Products Representative can supply you.

American Optical COMPANY
SAFETY PRODUCTS DIVISION

Always Insist on Trademarked Safety Products.

SOUTHBRIDGE, MASSACHUSETTS • *Branches in Principal Cities*

▲ For more details circle NED-1073 D7 on enclosed inquiry slip ▲

New Processes & Materials

LENS-COATING SERVICE
assures skilled, quality work

A special lens-coating service is now available to the general public and to lens makers by this company. The facilities of company's Lenskote department assure users of this service that their lenses will come back in perfect condition. Cementing, recementing, collimating, testing, mount and lens repair work are also available from the same department. Service offered by **Burke & James Inc.**, 311 S. Wabash Ave., Chicago 4, Ill.

▲ For more details circle NED-1074 D7 on enclosed inquiry slip ▲

FAST-DRYING ENAMEL
dries in 15 to 20 minutes

Usable even under excessively dusty conditions, BoGard Rapid Dry enamel for machinery and equipment air dries in 15 to 20 minutes. Durable enamel can be air dried or baked after spraying, and it is also suitable for touch-up work by brush. Good weathering, color retention and a high gloss finish are other features. Standard colors and those to match specifications are available. Made by **Body Bros., Inc.**, Dept. B1, Bedford, O.

▲ For more details circle NED-1075 D7 on enclosed inquiry slip ▲

BRASS TREATMENT
prevents tarnishing and staining

Hard, durable coating that exhibits good weather and humidity resistance is an air-drying material called Brasslyfe. It passifies the metal and prevents tarnishing and finger stains from appearing after parts have been shipped. One-application coating is spray, dip or brush-applied. While chemical reactions continue for several days, parts can be packaged within 1 hour after coating. Made by **Logo, Inc.**, 129th & Stony Island Ave., Chicago 33, Ill.

▲ For more details circle NED-1076 D7 on enclosed inquiry slip ▲

PLASTIC LINING MATERIAL
has chemical resistant surface for use on tanks, vessels, drums, pipe

High chemical resistance to acids, alkalies, oxidants and most solvents is exhibited by Kel-F plastic laminate lining material. It can be cemented to any surface with almost any contour and is suited for lining tanks, vessels, reactors, drums, pails, pipe, chutes, hoppers, fume hoods and ducts. The nontoxic and noncontaminating material has a usable range of −100 to 350° F. It presents a nonwetting and nonsticking surface with good abrasion resistance.

Other applications include surfacing laboratory bench tops, chemical plant floors, conveyors belts, resin casting forms, rolls and decks. Material consists of a thin impermeable layer of green-tinted Kel-F fused into the fibers of one side of a glass fabric backing, which is readily bonded to metal, wood, rubber or plastic.

Maximum size is 36 x 42 in. Continuous lengths in 36 or 42-in. widths are also available, as is a Kel-F tape to seal joints. A thermo pulse seaming technique is used to make seals in the field. Made by **United States Gasket Co.**, 654 N. Tenth St., Camden 1, N. J.

▲ For more details circle NED-1077 D7 on enclosed inquiry slip ▲

RECIPROCATING SOLENOIDS

R2D-328 SOLENOID OPERATOR

Reciprocating solenoids have the trade name of "RD Solenoid Operators."

DEFINITION

An RD solenoid operator is a reciprocating solenoid unit made up of two solenoids mounted in tandem to actuate a common plunger oscillating between them.

CLASSIFICATION AND DENOMINATION

Class I. Plain RD operators for operation in open air.
Class II. Oil immersed, RDZ operators.
Class III. Explosion proof RDX operators.
Type 1. Two point operators R2D, R2DZ, R2DX.
Type 2. Three point operators R3D, R3DZ, R3DX.
Form A, side mounted, Form B, end mounted.

Operators available: RD-100, RD-300, RDX-300, RD-400, RD-700 and RD-800.

Ask for bulletins on operators, solenoids, solenoid brakes, Reciprocators and Semotors. See our catalogs in Sweet's Catalog Service.

TROMBETTA SOLENOID CORP.
329 N. MILWAUKEE ST.•MILWAUKEE 2, WIS.

▲ For more details circle NED-1078 D7 on enclosed inquiry slip ▲

NEW Bulletin Describes

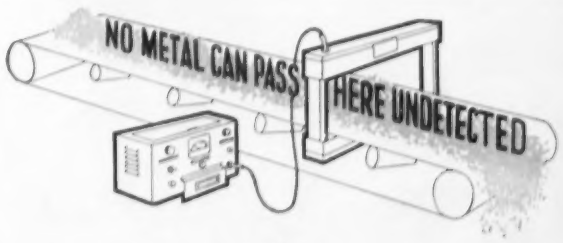
NEW Demountable Wheel with 2 to 35 times longer life

Severe tests of the new Rapistan 10" MB demountable rubber wheel show it outlasts molded-on rubber wheels by 2 to 35 times to slash replacement costs. Exclusive design gives 100% easier rollability. Tires replaceable in 5 minutes. Now available in 2" and soon available in 3" tire sizes. Write for new Bulletin No. MB-57.

Rapistan
fastest growing name in casters

The RAPIDS-STANDARD CO.
INCORPORATED
100 Rapistan Building
Grand Rapids 2, Mich.

▲ For more details circle NED-1079 D7 on enclosed inquiry slip ▲



with
DINGS METAL DETECTORS
on the job

With a Dings Metal Detector policing your products, *no tramp metal can pass through the search coil undetected* to damage expensive equipment or impair product purity. The moment tramp metal enters the search coil area, an alarm is set off or the conveyor is automatically stopped.

For operations where only iron particles are encountered, use Dings Universal Series Metal Detectors. If all types of metals must be detected, use the Dings EMD Electronic Metal Detector. Both models are available in sizes to meet your needs for automatic protection against tramp metal damage.

MD-257-1/9

Dings

Write for Bulletin 1901 today!
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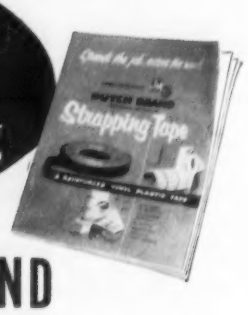
new ideas for packaging



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DUTCH BRAND

reinforced vinyl

STRAPPING TAPE

Abrasion and wear resistant, mildew proof, oil and grease proof reinforced vinyl Dutch Brand Strapping Tape for easier better packaging, holding, palletizing and tear stripping. See how it conforms to every surface contour . . . how it comes free from the roll without slivering or splitting . . . how it protects without marring product or package . . . write for free "new idea" book giving data and dozens of typical uses.

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Washington Canners Cooperative Association, Vancouver, Washington operates a 14-truck fleet of L-S Model "E" Electrics. Complete operational costs for the last 10 years show an average cost of only $1.87 per truck per day — or less than ¼ former gas truck costs!

L-S Model "E" is clean, silent, fumeless for indoor work. Lift heights to 145". Capacities to 4000 lbs. 48" load length. Write to:

L-S LEWIS-SHEPARD®
The most complete line of materials handling equipment anywhere

The "MASTER" Line 174 Walnut St., Watertown 72, Mass.

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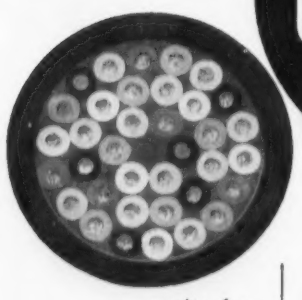
NOW!

BRONCO 66 CONTROL CABLES



WITH UP TO 36 CONDUCTORS

BRONCO 66 CERTIFIED CONTROL CABLES are made with the tough, flexible, oil resistant, Synchro-Cured Bronco 66 jacket that is certified to contain not less than 67.32% Neoprene. Jacket is branded every two feet.

There are three types of Bronco 66 Certified Control Cable – extra flexible portable cable, shielded portable control cable for electronic circuits, and "stationary" for important control circuits. In the stationary type there is a color-coded Neoprene jacket over each single buna-rubber insulated conductor.

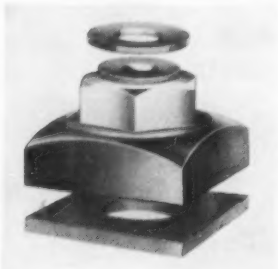
write for NEW FREE CATALOG CONTAINING A COMPLETE LISTING OF BRONCO 66 CERTIFIED CABLES:

WESTERN INSULATED WIRE CO.
Los Angeles 58, California
Please send me your new free catalog of wires and cables
Name _____ Title _____
Company _____
Address _____

WESTERN INSULATED WIRE CO.
Los Angeles 58, California

For more details circle NED-1083 D7 on enclosed inquiry slip

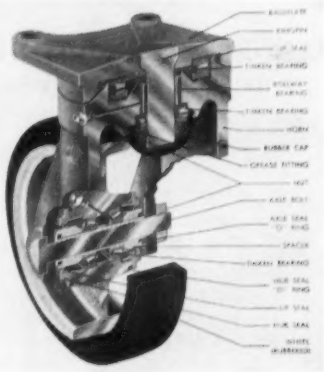
LEVELING JACK
supports up to 20-ton machines



Style JS leveling jack for easy leveling of machine tools, assembly fixtures, surface plates and other industrial equipment supports up to 20 tons. Load is raised or lowered up to ⅜-in. by means of adjustable nut. Compensation for floor slope is made by concave spherical radius in the lift screw and aligning disk which provides adequate "float" and maintains horizontal alignment of the equipment. Machine vibration and creepage are minimized through use of special mounting pads. Twelve models range from 1¾ to 3¾ in. high. Made by **Enterprise Machine Parts Corp.**, 2727 Jerome Ave., Detroit 12, Mich.

For more details circle NED-1084 D7 on enclosed inquiry slip

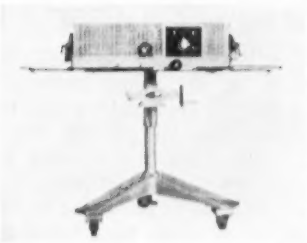
SEALED CASTERS
load ratings up to 2000 lb



Lip type seal in both wheel and caster of 55 series units excludes all foreign matter, including liquids and abrasives, yet permits purging of semisolid lubricants from bearing cavities. Casters are usable where chemicals and other contaminants are prevalent. Timken thrust bearings in the caster and roller bearing around the kingpin are protected by a hard rubber sealing cap. Casters and wheels are available in 6 to 20-in. wheel sizes and in load ratings from 480 to 2000 lb. Made by **Aerol Co.**, Dept. N, 1731 Workman St., Los Angeles 31, Calif.

For more details circle NED-1085 D7 on enclosed inquiry slip

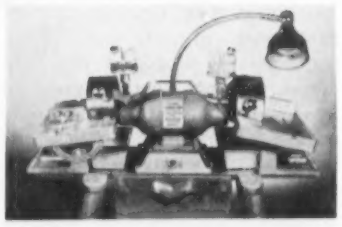
FILM PACKAGING MACHINE
heat seals variety of plastics



Continuous band sealing of such items as hardware, toys, confections, produce and dried products can be performed with the Band Seal-It machine. Pouches of any length can also be sealed. Polyethylene, Saran, Cellophane and other films with varying characteristics can be sealed by controlling temperatures, pressure, dwell time and cooling. Continuous traveling steel bands grip and carry the film through the sealing and cooling cycles at up to 720 lineal ipm. Machine operates horizontally through a 90-degree arc for adaptation to any system. Made by **Globe Heat-Seal, Inc.**, 3372 S. Robertson Blvd., Los Angeles 34, Calif.

For more details circle NED-1086 D7 on enclosed inquiry slip

CARBIDE TOOL GRINDER
has roughing and finishing wheels



Single point Coolie-Grinderlap carbide tool and drill grinder has a 6-in. 60-grit roughing green wheel and a 6-in. reloadable diamond finishing wheel of 325 screen mounted on opposite ends of its motor shaft. Water is gravity fed to the rough grinding wheel, reaching the working surface of the wheel by centrifugal force. Rapid evaporation offers full benefit of cooling effect of water. No water or oil coolant drips behind the wheel. It is fed by a 6-oz Gits sight feed oiler. The 2½-in. stainless steel guards can be opened for adjusting tool clearance. Also featured are quick-acting brake, tilting worktables and miter gage. Models with 1/3 and ½-hp, 3450 rpm motors are available in bench or floor types. Made by **Diamond Tool Co.**, Dept. A, South Haven, Mich.

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JIGS
DIES
MACHINES

RUST-PROOFED IN SECONDS!

Immediate mail-order delivery of this clear, dry waxy film that positively seals moisture out. Clean, handy and effective as only Houghton can make it.

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If you are troubled with sagging shelves, insufficient storage space, poor layout, call your local Deluxe dealer. He will engineer flexible, efficient shelving racks of Deluxe steel shelving—the sturdiest and best-designed shelving made.

These features mean lowest cost installation for you
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- Boltless, adjustable shelf brackets
- Snap-in dividers for quick flexibility
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- Coped shelf corners for more capacity

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DELUXE

DELUXE METAL FURNITURE CO. • WARREN, PA.
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"See us at Booth 1232 at the Materials Handling Show in Philadelphia".

For more details circle NED-1089 D7 on enclosed inquiry slip

SOLIDS–LIQUID SEPARATION

A new, economical approach to solids-liquid separation and solids classification in a liquid medium

by

B. KAHANE, P. Eng.
Separator Engineering Ltd.
Montreal, Quebec

Reprinted from

CANADIAN CHEMICAL PROCESSING

September 1956

Many technical and operating executives in the process industries have asked for this significant article. Write for your complimentary copy.
It's Bulletin S-101-175.

SWECO SEPARATORS

SOUTHWESTERN ENGINEERING COMPANY
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Engineers and Constructors . . . Manufacturers

For more details circle NED-1090 D7 on enclosed inquiry slip

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1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151	1201
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A PENTON PUBLICATION

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CITY _____ ZONE _____ STATE _____

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_____

Approximate Number of Employees in Plant: _____

Check Invested Capital Rating of Your Company

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- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
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D-7

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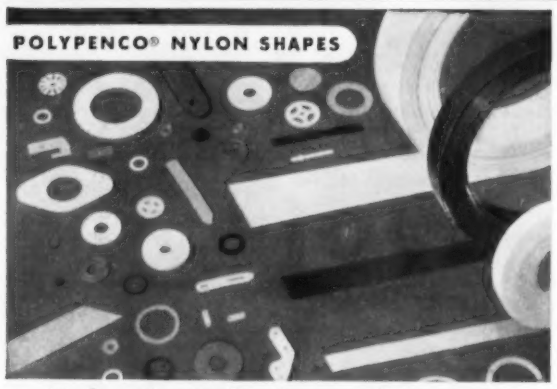

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POLYPENCO

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for high heat or other severe conditions

of ethyl cellulose ...
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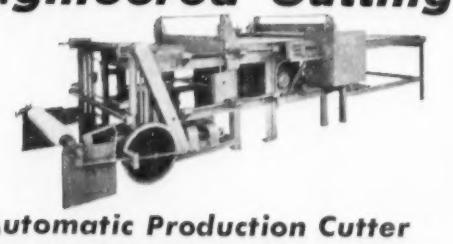

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Electronically Controlled For Speed and Accuracy

Combine your feeding, guiding, slitting, measuring, cutting and conveying — also stacking if desired — in one automatic operation. This machine takes materials from rolls or from a preceding process by synchronization. Also semi-automatic models.

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WINDERS • HAND & POWER SHEARS • DIE PRESSES SLITTERS • CORNER CUTTERS

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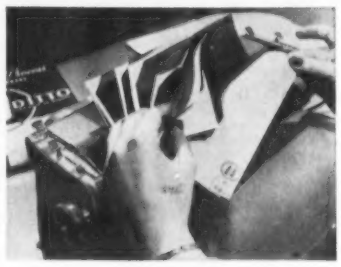
New Processes & Materials

DUPLICATING MASTER combined with up to six carbons



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Supplied as a dry powder and "painted on" as an aqueous slurry, Handy Alumibraze self-fluxing brazing alloy will join 2S, 3S, 52S, 54S, 61S, 62S, 63S and 66S aluminum alloys and several types of casting alloys. It was developed for use in a molten salt bath and is most suitable where shape of the parts makes use of preforms or solid alloys impractical. Alloy's own fluxing material serves both as a flux and as a cement that keeps alloy in place during brazing. Cement does not melt at the usual brazing temperatures, but is soluble in the salt. Dissolution of the cement allows alloy to fill joint area by capillary flow. Alloy melts at 1070-1080° F and brazes at 1100° F. Developed by **Handy & Harman**, 82 Fulton St., New York 38, N. Y.

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CUTTING & GRINDING COOLANT for iron, brass, aluminum, steel

Rust prevention, cleanliness and resistance to rancidity are features of Cool-Speed synthetic coolant, used with a water vehicle to produce a transparent solution. It has good lubricity and cooling qualities and produces good finishes on cast iron, brass, aluminum and various steels, including stainless, when used in machining and grinding operations. Made by **Daubert Chemical Co.**, Dept. NED, 333 N. Michigan Ave., Chicago 1, Ill.

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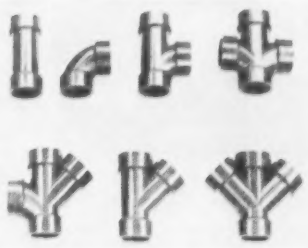
PLASTIC PIPE & FITTINGS used for corrosive liquid drainage



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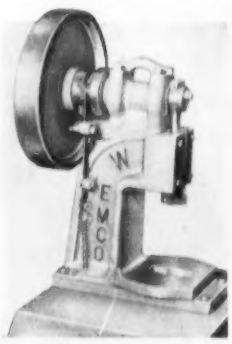

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Index to Advertisers

A

A & A Mfg. Co., Inc. 69
A'G'A Div. of Elastic Stop Nut Corp. of America ..16, 119
Abart Gear & Machine Co. .. 17
Abell-Howe Co. 41
Abrasive Products, Inc. 26
Accessory Products Corp. 80
Ace Plastic Co. 17
Acromark Co. 39
Acushnet Process Co. 51
Adams, R. P., Co. 5, 62
Advance Floor Machine Co. .. 110
Aerovent Fan Co., Inc. 102
Aget Manufacturing Co. 17
Ainsworth Mfg. Corp., Mult-A-Frame Div. 67
Air-Maze Corp. 31
Airetool Mfg. Co. 48
Ajax Electric Co. 56
Alan Wood Steel Co., Penco Metal Products Div. 34
Albion Industries, Inc. 106
Aldon Co., The 6
Alemite Div., Stewart-Warner 24
Allen, Alva, Industries 34
Allen-Bradley Co. 42
Allied Products Corp. 5
Allis, Louis, Co., The 13
Allis-Chalmers Mfg. Co. 38
Aluminum Co. of America .. 41
Aluminum Ladder Co. 70
Alvey-Ferguson Co. 109
American Air Filter Co. 43
American Brass Co. 16, 71
American Chain & Cable Co. . 12
American Machine & Metals, Inc. 102
American Metal Hose Div., American Brass Co. 71
American Meter Co. 3
American Monorail Co. 28
American Optical Co., Safety Products Div. 115
American Pulley Co. 16
American Recording Chart Co. 58
American Solder & Flux Co. 51
Ames, B. C., Co. 92
Anaconda Wire & Cable Co. 16, 71
Anchor Coupling Co. 64
Anchor Steel & Conveyor Co. 43
Anderson, V. D., Co. 28
Anderson Bros. Mfg. Co. 53
Antenna Specialists Co. 11
Apex Machine & Tool Co. 88
Arcos Corp. 64
Aro Equipment Corp. 56
Armstrong & White 18
Armstrong Bros. Tool Co. 60
Asgania Regulator Co. 71
Associated Spring Corp. 91
Athenia Steel Div., National Standard Co. 90
Atlantic Abrasive Corp. 44
Atlas Press Co., Clausing Div. .83
Auburn Mfg. Co. 82
Aurand Mfg. & Equipment Co. 11
Aurora Equipment Co. 70
Automatic Transportation Co. 102
Avery Adhesive Label Corp. .. 69

B

B-I-F Industries, Proportioneers, Inc. Div. 59, 114
Babcock & Wilcox Co., The Tubular Products Div. 61
Baker-Raulang Co. 95
Barksdale Valves 13
Basnik, Vince, Co. 60
Bassick Co. 47
Bathey Mfg. Co. 112
Bay Products Inc. 26
Bead Chain Mfg. Co. 25
Bean, John, Industrial Sales Dept., Div. of Food Machinery & Chemical Corp. 108
Beaver Pipe Tools, Inc. 81
Beck Equipment Co. 78
Bellows Co. 79
Benchmaster Mfg. Co. 32
Bennett Mfg. Co. 72
Biddle, James G., Co. 24
Big Joe Mfg. Co. 10
Binks Mfg. Co. 61
Bishop, J., & Co. 83
Black & Decker Mfg. Co. .. 120
Black Drill Co. 81
Blaw-Knox Equipment Div., Blaw-Knox Co. 76
Bokum Tool Co. 105
Bostitch, Inc. 17
Boston Gear Works 28
Bowser, Inc. 58
Brainard Steel Div., Sharon Steel Corp. 114
Breeze Corp. 63
Brown, W. R., Corp. 111
Brown Engineering Co. 99
Browning Mfg. Co. 2
Buffalo Weaving & Belting Co. 91
Builders-Providence, Inc., Div. of B-I-F Industries 59, 114
Bullard, E. D., Co. 89
Burklyn Co. 50
Burgess-Manning Co. 67
Buschman, E. W., Co. 8
Bussmann Mfg. Co. 60, 61

C

Cabot, Samuel, Inc. 40
Calculagraph Co. 84
Canton Stoker Corp., Wagener Pump Div. 51
Carey Electronic Engineering Co. 106
Carpenter Steel Co. 99, 118
Carter Controls, Inc. 29
Celluplastic Corp. 6
Cellcote Co. 84
Cincinnati Lathe & Tool Co. .. 78
Chain Belt Co. 49
Charleston Rubber Co. 10
Chelsea Fan & Blower Co. .. 102
Chesley Industries 2
Chicago Eye Shield Co. 104
Chicago Hardware Foundry Co. 53
Chicago Mfg. & Distributing Co. 97
Chicago Wheel & Mfg. Co. .. 96
Chicago-Wilcox Mfg. Co. 25
Clark-Cutler-McDermott Co. .. 33
Clark Mfg. Co. 7
Clark Equipment Co. 31
Clarke Sanding Machine Co. .. 29
Clements-Cadillac Quik-Vac .. 38
Clements Mfg. Co. 38
Cleveland Cap Screw Co. 92
Cleveland Crane & Engineering Co. 47, 78
Cleveland Tramrail Div., Cleveland Crane & Engineering Co. 47
Cleveland Vibrator Co. 40
Cleveland Worm & Gear Co. 41
Climax Metal Products Co. .. 4
Cling-Surface Co. 91
Clippard Instrument Laboratory, Inc. 64
Coffing Hoist Div., Duff-Norton Co. 62
Coles Cranes, Inc. 88
Colonial Rubber Co. 41, 76
Colorado Fuel & Iron Corp., Wickwire Spencer Steel Div. 73
Colson Corp. 40
Columbia Electric Mfg. Co. .. 26
Comtor Co. 33
Commander Mfg. Co. 52
Condersite Engineering Corp. . 8
Cone Drive Gears, Div. Michigan Tool Co. 74
Conco Engineering Works 108
Consolidated Electrodynamics Corp. 30
Consolidated Electrodynamics Corp., Rochester Div. 79
Continental Felt Co. 98
Convoy, Inc. 68
Coppus Engineering Corp. 46
Corning Glass Works 105
Cover, H. S. 8
Crane Co. 49
Crane Packing Co. 23, 69
Crown Gear, Div. of Harrington & Richardson, Inc. 51
Cunningham, M. E., Co. 57
Cuno Engineering Corp. 61
Curran Corp. 31
Cutler-Hammer, Inc. 46
Cylinder Mfg. Co. 11

D

D & M Products, Inc. 69
Dake Corp. 55
Davies Bros. 75
Dayton Rogers Mfg. Co. 74
Deltronic Corp. 52
DeLuxe Metal Furniture Co. . 116
Deming Co. 92
Denison Engineering Co. 60
Detecto Scales, Inc. 79
Detroit Hoist & Machine Co. 32
Detroit Power Screwdriver Co. 42
Detroit Stamping Co. 61
Detroit Testing Machine Co. .. 58
Deublin Co. 4
Devcon Corp. 118
DeVilbiss Co. 23
Diamond Machine Tool Corp. 120
Diebold, Inc. 50
Dillon, W. C., & Co. 45
Dings Magnetic Separator Co. 115
Dixon Automatic Tool, Inc. .. 104
Dockson Corp. 91
Dodge Mfg. Corp. 74
Doerr Glass Co. 56
Dole Valve Co. 67
Dollinger Corp. 81
Dorr-Oliver, Inc. 93
Douglas Fir Plywood Association 9
Dow Corning Corp. 44
Downs Crane & Hoist Co. .. 14
Drake Manufacturing Co. 18
Dravo Corp. 94
Dresser Mfg. Div. 30, 87
Dry Cline Lamp Corp. 89
Duff-Norton Co. 3, 62
duMont Corp. 56
Duo-Safety Ladder Corp. 6
duPont de Nemours, E. I., & Co. 83
Durabla Mfg. Co. 24
Durant Mfg. Co. 77
Durkee-Atwood Co. 110
Dust Suppression & Engineering Co. 98
Dwyer, F. W., Mfg. Co. 48

E

Eagle Mfg. Corp. 118
Eastman Kodak Co. 11, 37, 63, 103
Eastern Machine Screw Corp. 7
Eaton Mfg. Co., Reliance Div. 72
Economy Engineering Co. 88
Edmont Mfg. Co. 58
Edmund Scientific Corp. 119, 120
Elastic Stop Nut Corp. of America 16, 119
Electric Auto-Lite Co., The ... 114
Electric Controller & Mfg. Co., Div. of Square D Co. 77
Electrolift, Inc. 93
Elgin National Watch Co., Abrasives Div. 71
Elliott Co. 81
Emerson Electric Mfg. Co. 40
Engis Equipment Co. 88
Enterprise Machine Parts Corp. 70
Equipto Div., Aurora Equipment Co. 70
Equipment Mfg., Inc. 57
Ericsson-Merritt, Inc. 10
Eriez Mfg. Co. 101
Euclid Crane & Hoist Co. 85
Evans Rule Co. 87
Exact Weight Scale Co. 54
Ex-Cell-O Corp. 55

F

Fafnir Bearing Co. 52
Fairbanks-Morse & Co. 4
Falls Engineering & Machine Co., The 65
Farquhar, A. B., Div., Oliver Corp. 18
Farrelloy Co. 120
Farval Corp. 89
Fastex Div., Illinois Tool Works 27
Fawick Airflex Div., Fawick Corp. 44
Federal Press Co. 81
Federal Products Corp. 105
Feedall, Inc. 52
Felters Co. 76
Fenwal Inc. 48
Fenway Machine Co. 24
Ferguson, Harry J., Co. 75
Ferro Corp. 37
Fielden Instrument Div., Robertshaw-Fulton Controls Co. 19
Filmsort Div., Dexter Folder Co. 68
Finnell System, Inc. 64
Filtros, Inc. 102
Fisher-Pierce Co., Inc. 8
Fischer & Porter Co. 26
Flexaust Co. 24
Flexible Tubing Corp. 98
Flexo Products, Inc. 62
Flexonics Corp. 110
Flexrock Co. 120
Foley Mfg. Co. 76
Food Machinery & Chemical Corp. 93, 108
Foote Bros. Gear & Machine Corp. 66
Foster, L. B., Co. 65
Fostoria Pressed Steel Corp. 50
Foxboro Co. 5, 72
Frommelt Industries 104
Fuller Co. 108

G

Gardner-Denver Co. 65
Gardner Machine Co. 74
Garland Co., The 107
Garlock Packing Co. 68
Garrett Oil Tools, Inc. 94
Gast Mfg. Corp. 89
Gates Engineering Co. 94
Gay-Lee Co. 102
General Plate Div., Metals & Controls Corp. 49
General Radio Co. 57
General Scientific Equipment Co. 9
General Tire & Rubber Co. 35
General Ultrasonics Co. 9
Genesee Machine Builders, Inc. 51
Gerrard Steel Strapping Div., U. S. Steel Corp. 44
Gleason Reel Corp. 6
Globe Co., Grip-Strut Div. .. 62
Globe Hoist Co. 72
Globe Imperial Div. of Precision Castings Co. 101
Goodall Rubber Co. 8
Goodrich, B. F., Tire Co., A Div. of The B. F. Goodrich Co. 23
Goodyear Tire & Rubber Co. 19, 29, 39
Gordon, Claud S., Co. 58
Gorton, George, Machine Co. .. 112
Goulds Pumps, Inc. 48
Graham Transmissions, Inc. .. 32
Granet Corp., The 81
Graphic Systems 66
Graybar Electric Co., Inc. 9
Greaves Machine Tool Co. 95
Greenlee Bros. & Co. 67
Greenlee Tool Co. 16
Gries Reproducer Corp. 13, 117
Grieve-Hendry Co. 100
Grinnell Co. 85
Grip Nut Co. 53
Gulbert Steel Co. 12
Gump, B. F., Co. 5
Gustin-Bacon Mfg. Co. 69

H

Hallemite Mfg. Co. 94
Hamilton Caster & Mfg. Co. 86
Hamilton Tool Co. 13, 15
Hammond Machinery Builders, Inc. 59
Handy & Harman 45
Hannifin Corp. 53, 104
Hansen, A. L., Mfg. Co. 27
Hansen Manufacturing Co. 76
Harrington Co. 99
Hart, R. E., Mfg. Co. 60
Hause Engineering 45
Hetherington & Berner, Inc. .. 28
Hevi Duty Electric Co. 89
Hewitt-Robins 12
Hobbs Mfg. Co. 20, 117
Hollaender Mfg. Co. 104
Homelite, A Div. of Textron, Inc. 106
Homer Mfg. Co. 10
Hoover Ball & Bearing Co. 103
Houghton, E. F., & Co. 116
Hunt, C. B., & Son, Inc. 47
Hydraulic Mfg. Co. 103

I

Index Machine Co. 57
Ideal Industries, Inc. 3
Illinois Testing Laboratories, Inc. 46, 75
Inductotherm Corp. 67
Industrial Engineering Corp. .. 2
Industrial Filtration Co. 103
Injection Molders Supply Co. .. 55
Industrial Models, Inc. 105
Industrial Products Co. 2, 12
Ingersoll-Rand Co. 14, 95
International Research & Development Corp. 5
Industrial Retaining Ring Co. 113
Industrial Tectonics, Inc. 55
International Nickel Co. 110
Ironbound Box & Lumber Co. 36
Island Equipment Corp. 72

J

Jabsco Pump Co. 110
Jack & Heintz, Inc. 52
Jaco Devices, Inc. 106
Jeffrey Mfg. Co. 35
Jelliff, C. O., Mfg. Corp. 85
Jenkins Bros. 40
Johns-Manville Corp., Dutch Brand Div. 116
Johnson Mfg. Corp. 68
Jomac Inc. 88
Jones, Howard B., Div., Cinch Mfg. Corp. 109
Joy Mfg. Co. 12
Justrite Mfg. Co. 6

K

Kaiser Aluminum & Chemical Sales, Inc. 6
Kano Laboratories 23
Katolight Corp. 80
Kent Co. 27
Kester Solder Co. 31, 109
Kett Tool Co. 92
Kidde, Walter, & Co., Inc. 47, 76
Klaas Machine & Mfg. Co. 117
Korfund Co. 14
Krieg, Victor J., Inc. 95

L

Lake Chemical Co. 113
Lapeer Mfg. Co. 96
Leiman Bros., Inc. 85
Lenco, Inc. 49
Lepel High Frequency Laboratories, Inc. 49
Lermer Plastics, Inc. 49
Leslie Co. 109
LeTourneau, R. G., Inc. 25
Lewis-Shepard Products, Inc. 116
Lewis Welding & Engr. Corp. 35
Lift Trucks, Inc. 77
Lindberg Products Co. 20
Linemaster Switch Corp. 72
Link-Belt Co. 23, 37
Lipe-Rollway Corp. 15
Littell, F. J., Machine Co. 84
Littleford Bros., Inc. 112
Logan Co. 4
Logan Engineering Co. 80
Loomis Machine Co. 40
Lovejoy Flexible Coupling Co. 108
Lucas Milhaupt Engineering Co. 95
Lunkenheimer Co. 45

M

M B Manufacturing Co. 109
MacLean-Fogg Lock Nut Co. 101
McGill Mfg. Co. 9, 96
Manheim Mfg. & Belting Co. 56
Markal Co. 57
Marsh Instrument Co. 114
Marshalltown Mfg. Co. 88
Mason-Neilan Div. of Worthington Corp. 15
Mathews Conveyer Co. 93
May-Fran Engineering, Inc. .. 78
Mead Specialties Co. 48
Mechanical Products Corp. .. 62
Meier, Joshua, Co., Inc. 8
Mercoid Corp. 96
Metals & Controls Corp. ..15, 49
Metzgar Conveyor Co. 90
Meyercord Co. 63
Meyers, W. F., Co. 30
Micro Balancing, Inc. 20
Micro-Switch, a Div. of Minneapolis-Honeywell Regulator Co. 87
Midland Industrial Finishes. . 11
Miller Sewer Equipment, Inc. 3
Miller Sewer Rod Co. 120
Milwaukee Electric Tool Corp. 24
Mixing Equipment Co. 50
Modern Machine Tool Co. 39
Mohawk Mfg. Co., The 10
Morehouse-Cowles, Inc. 2
Morris Machine Works 43
Morse Mfg. Co. 107
Mosinee Paper Mills Co. 10
Moto-Truc Co. 75
Mueller Brass Co. 90
Multifinish Mfg. Co., Magnetool Division 46
Multistamp Co. 29

N

Nailing Machine Section, Food Machinery & Chemical Corp. 93
Naige Co., Inc. 3
National Acme Co. 43
National Air Sander, Inc. 37
National Machine Products Co. 47
National Screw & Mfg. Co. 42
National Standard Co., Athenia Steel Div. 90
National Vulcanized Fibre Co. 46
Naylor Pipe Co. 56
New Departure Div. of General Motors Corp. 64
New England Carbide Tool Co. 112
New York Belting & Packing Co. 86
Newark Wire Cloth Co. 71
Newcomb-Detroit 42
Niagara Blower Co. 43
Norgren, C. A., Co. 45
Northwestern Tool & Engineering Co. 103
Norton Co. 55

O

OPW Corp., Jordan Corp. Div. 39
Ohio Brass Co. 72
Ohio Gear Co. 70
Ohio Nut & Bolt Co. 113
Oliver Corp., A. B. Farquhar Div. 18
Olson, Samuel, Mfg. Co., Inc. 97
Onan, D. W., & Sons, Inc. .. 105
O'Neil-Irwin Mfg. Co. 34
Orangeville Mfg. Co. 20
Overbeke-Kain Co. 73
Owatonna Tool Co. 58
Ozalid, A Div. of General Aniline & Film Corp. 15

P

Paasche Airbrush Co. 74
Pacific Transducer Corp. 39
Palley Supply Co. 112
Palmer Thermometers, Inc. .. 25
Palnut Co. 87
Pangborn Corp. 36
Pannier Corp. 110
Parker Appliance Co. 83
Parker-Kalon Div., General American Transportation Corp. 74
Pasadena Hydraulics Inc. 25
Pass & Seymour, Inc. 66
Patton Mfg. Co., Inc. 44
Patton-MacGuyer Co. 43
Peck & Harvey Mfg. Corp. .. 34
Pedrick Tool & Machine Co. .. 33
Peerless Electric Co. 64
Peerless Wire Goods Co. 98
Penco Metal Products Div., Alan Wood Steel Co. 34
Perfecting Service Co. 17
Perfection Gear Co., American Stock Gear Div. .. 64
Pettibone Mulliken Corp. 90
Pfaudler Co. 82
Pike, E. W., & Co. 85
Pine, William S. 12
Pines Engineering Co. 18
Pioneer Rubber Co. 47
Platecoil Div. of Tranter Mfg., Inc. 59
Pneu-Trol Devices, Inc. 56
Polymer Corp. of Penna. 117
Portage Double-Quick Tool Co. 22
Porter, H. K., Company, Inc., Quaker Rubber Div. 100
Porter-Cable Machine Co. .. 33
Potdevin Machine Co. 86
Precision Tool & Mfg. Co. 7
Proportioneers, Inc. Div. of B-I-F Industries 59
Protectoseal Co. 99
Pulmosan Safety Equipment Corp. 111
Punch-Lok Co. 36
Purolator Products, Inc. 28
Pyles Industries, Inc. 77

Q

Quaker Rubber Div. H. K. Porter Company, Inc. of Pittsburgh 100
Quickdraft Co. 84
Quincy Compressor Co. 38

R

Ramsey Corp. 108
Randall Graphite Bearings, Inc. 82
Rapids-Standard Co. 16, 115
Raymond Corp., The ..22, 53, 98
Redi-Bolt, Inc. 100
Reed Manufacturing Co. 97
Reeves Pulley Co. Div. of Reliance Electric & Eng. Co. 42
Reliance Electric & Eng. Co. 75
Republic Steel Corp. 87
Research-Cottrell, Inc. 38
Research Products Corp. 54
Revolvator Co. 112
Reynolds Metals Co. 73
Rhodes, M. H., Inc. 36
Richard Brothers Punch Div., Allied Products Corp. 5
Richards-Wilcox Mfg. Co. 65
Riehle Testing Machines Div. Amer. Machine & Metals, Inc. 102
Robbins & Myers, Inc. 82
Roberts, Weldon, Rubber Co. 114
Robertshaw-Fulton Controls Co. 19
Rochester Mfg. Co. 78
Rock-Tred Corp. 117
Rockwell Mfg. Co. 62, 93
Rockwell Mfg. Co., Nordstrom Valve Div. 31
Rockwood Sprinkler Co. ..34, 89
Rodgers Hydraulic Inc. 105
Roll-A-Reel 59
Roper, Geo. D., Corp. 115
Rotary Lift Co. 84
Roth Rubber Co. 85
Round, David, & Son, Inc. .. 22
Royal Design & Mfg., Inc. .. 104
Ruby Chemical Co. 34

S

SKF Industries, Inc. 60, 61
S-P Mfg. Corp. 101
Sabin Machine Co. 111
Safety Clothing & Equipment Co. 4
Saginaw Steering Gear Div. of General Motors 106
Sahlin Engineering Co. 22
Salem-Brosius, Inc. 90
Sarco Co., Inc. 51, 53
Scherr, George, Co. 99
Schmidt, Geo. T., Inc. 14
Schrader's, A., Son, Div. of Scovill Mfg. Co., Inc. ...19, 96
Schutte & Koerting Co. 98
Sesco, Inc. 3
Sessions, J. H., & Son 65
Set Screw & Mfg. Co. 23
Severance Tool Industries, Inc. 79
Sexauer, J. A., Mfg. Co. 111
Shafer Bearing Div., Chain Belt Co. 49
Sheehan, R. T., Co. 113
Sheffield Corp., The 18
Sheldon Machine Co. 22
Shepard Niles Crane & Hoist Corp. 30
Shoe Form Co. 52
Shuford Mills, Inc. 82
Sico Mfg. Co. 82
Sigmamotor, Inc. 106
Signode Steel Strapping Co. 30, 71
Simplicity Engineering Co. .. 37
Sintz, Claud, Inc. 38
Skinner, M. B., Co. 80
Skinner Electric Valve Div. .. 4
Smit, J. K., & Sons, Inc. 101
Smoothex, Inc. 5
Snap-On Tools Corp. 92
Snow-Nabstedt Gear Corp. 101
Sommer Metalcraft Corp. .. 14
Sonneborn, L., Sons, Inc. 11, 13
Soreng Div., Controls Corp. of America 80
South Chester Corp. 19
Southern Screw Co. 20
Southwestern Engineering Co. 116
Spaulding Fibre Co. 86
Speed Selector Inc. 29
Spencer Thermostat Div. Metals & Controls Corp. .. 15

Spray Engineering Co. 66
Spraying Systems Co. 27
Sprout-Waldron & Co. 26, 73
Square D Company ...30, 57, 91
Square D Co., Electric Controller & Mfg. Co. Div. 77
Stackbin Corp. 17
Stackpole Carbon Co. 42
Standard Conveyor Co. 36
Standard Pressed Steel Co. 18, 35, 63, 94
Standard Steel Spring Div., Rockwell Spring & Axle Co. 22
Stanley Works 32
Sta-Warm Electric Co. 16
Stearns Electric Corp. 120
Stearns Magnetic Products, A Div. of Indiana Steel Products Co. 119
Steel City Testing Machines, Inc. 99
Stephens-Adamson Mfg. Co. 26, 95
Sterling Electric Motors. 46
Sturdy Broaching Service, Inc. 44
Sturtevant Mill Co. 109
Sugar Beet Products Co. 112
Superior Pneumatic & Mfg., Inc. 14
Superior Tube Co. 69
Surety Rubber Co. 54
Sutorbilt Corp. 110
Sutton Mfg. Corp. 113
Swartwout Co. 77
Synthane Corp. 27

T

Tapmatic Corp. 7
Taylor Instrument Companies 96
Thomas & Betts Co. 70
Thomson Industries, Inc. 80
Tinnerman Products, Inc. ... 91
Tipp Manufacturing Co. 41
Titchener, E. H., & Co. 25
Tokheim Corp. 28
Toledo Metal Furniture Co., The 107
Tomkins-Johnson Co. 33
Toolset, Inc. 79
Torit Mfg. Co. 84
Towmotor Corp. 44
Townsend Co. 45
Tranter Mfg., Inc. Platecoil Div. 59
Trent, Inc. 83
Triner Scale & Mfg. Co. 86
Trombetta Solenoid Corp. ... 115
Tru Seal Div., Flick Reedy Corp. 50
Tube Turns Plastics, Inc. .. 73
Tubular Rivet & Stud Co. 50
Tubular Structures Corp. of America 7
Turco Products, Inc. 55
Twin Disc Clutch Co. 90
Tyler Mfg. Co. 97
Ty-Sa-Man Machine Co. 100

U

Uniform Tubes, Inc. 109
Union Metal Mfg. Co. 60, 61
Union Steel Products Co. 54
Union Tool Corp. 18
U. S. Burke Machine Tool Div. 67
U. S. Graphite Co. 19
U. S. Hoffman Machinery Corp. 113
U.S. Industrial Glove Corp.. 63
United States Rubber 62
U.S. Safety Service Co. 107
U.S. Steel Corp. 37, 44
U.S. Stoneware Co. 35, 86
U.S. Tool Co. 13
Universal Engineering Co. ... 63

V

Vaco Products Co. 103
Veeder Root, Inc. 14
Vernon Devices, Inc. 20
Vibratory Feeder Co. 66

W

W-K-M Mfg. Co., Inc. 54
Waco Mfg. Co. 15
Wales-Strippit Corp. 48
Walker, O. S., Co., Inc. 37
Walker-Turner Div. of Rockwell Mfg. Co. 93
Wallace, J. D., & Co., Inc.. 9
Warner Electric Brake & Clutch Co. 17
Warrick, Charles F., Co. 54
Waterloo Valve Spring Compressor Co. 59
Waterman Engineering Co. .. 36
Waters Manufacturing, Inc... 111
Watlow Electric Mfg. Co. ... 79
Watts Regulator Co. 71
Webb, Jervis B., Co. 7
Weber Marking Systems Div. of Weber Addressing Machine Co. 83
Webster Instrument Inc. 100
Weckesser Co. 117
Wedge-Wire Corp. 111
Weller Electric Corp. 29
Wells Mfg. Corp. 107
West Bend Equipment Corp.. 19
Western Insulated Wire Co... 116
Westinghouse Electric Corp... 94
Wheel Trueing Tool Co. 32
Wheeler Insulated Wire Co. .. 27
White, S. S., Industrial Div.. 33
White, S. S., Plastics Div. .. 97
Wickwire Spencer Steel Div... 73
Wiegand, Edwin L., Co. 4, 75
Wilmad Glass Co. 27
Wilson Rubber Co., The 108
Wilton Tool Mfg. Co. 115
Winsmith, Inc. 92
Wood Shovel & Tool Co. 87
World Dryer Corp. 39
Worthington Corp. 21
Wright Hoist Div., Amer. Chain & Cable 12

Y

Yale & Towne Mfg. Co.....33, 68
Yarnall-Waring Co. 59

Z

Zaco Laboratories 77
Zagar, Inc. 2

Index to Products

A

Abrasive Products 3, 11, 26, 44, 55, 74, 114
Adhesives 39, 109, 111
Alarms 67, 91
Alloys 90, 100

B

Balancing Equipment 5, 20, 22, 53
Balls 55
Batteries 3, 53
Bearings 1, 9, 24, 49, 60, 61, 64, 74, 80, 82, 95, 103, 108
Belt Treatment 91
Belting 56, 86
Benders 33, 34, 80
Bins & Boxes 17, 36, 39, 52, 54, 59, 68, 85, 86
Bolts 20
Boring Machines 67
Brakes 17, 34
Brazing Equipment & Materials 45, 56, 95, 117
Broaching Equipment 56, 100
Bronze 90, 108
Brushes, Electric 19
Burners, Oil & Gas 43
Bushings 8 80
Bushings, Drill 55

C

Cans, Safety 118
Cases & Chests 59
Casters 35, 47, 86, 106, 116
Cements, Repair 94, 118
Ceramics 113, 114
Chain & Fittings 25
Chairs & Stools 107
Chucks 2, 58, 83
Clamping Devices 3, 36, 61, 63, 67, 96, 100, 117
Clamps, Lifting 104
Cleaners, Air 5, 45, 62, 104
Cleaners, Drain ..3, 21, 103, 120
Cleaners, Tube 81
Cleaners, Vacuum 1, 3, 4, 27, 38, 110, 113
Cleaning Equipment 20, 36, 48, 55, 66, 69, 104
Cleaning Machines 1, 9, 18, 37, 42, 95
Cleaning Materials 20, 31, 109, 112
Clutches 17, 37, 44, 75, 90, 97, 120
Coating, Lens 115
Coatings, Protective 51, 57, 77, 84, 86, 94, 100, 107, 113, 115
Communications Equipment 27, 46, 54
Compressors 14, 21, 28, 38, 108
Controls, Air & Hydraulic 1, 4, 13, 36, 52, 56, 64, 96
Controls, Bin Level 12
Controls, Electric 5, 13, 15, 21, 24, 33, 42, 46, 59, 66, 72, 77, 87, 91, 96
Controls, Humidity 5
Controls, Level 4, 12, 17, 32, 54
Controls, Pressure & Temperature 15, 19, 33, 34, 36, 48, 58, 71, 72, 80, 81, 94, 96, 98, 104, 109
Control, Production ..26, 66, 84
Controls, Remote 15, 25, 56, 71
Conveyor Accessories 12, 26, 35, 41, 43, 72, 73, 106
Conveyors 4, 8, 10, 16, 18, 20, 22, 35, 36, 44, 52, 55, 65, 75, 78, 86, 90, 93, 100, 108, 109, 113
Coolant Systems 2
Cores, Winding 11
Counting Devices 14, 23, 60, 77
Couplings, Flexible 2, 4, 23, 108
Crane Accessories 8, 14, 28, 37, 57, 77, 81, 108
Cranes 30, 41, 88, 90
Cutters, Metal 24, 48, 73, 88, 117
Cutoff Machines 39
Cylinders, Air & Hydraulic.. 19, 29, 33, 39, 53, 64, 101, 112

D

Deburring Equipment 18, 20, 65, 79
Disks, Valve 40
Dies & Accessories 7, 63, 67, 74
Dimpling Machine 14
Dispensers, Food 64
Dock Covers 104
Dockboards & Ramps 13, 40, 84, 86
Doors, Industrial 104
Drafting Equipment 19, 68, 91, 106, 114
Drill Heads, Adjustable 52
Drilling Machines 12, 15, 42, 45, 50, 54, 59, 78, 88, 93
Drills & Accessories ..71, 81, 89
Drills, Masonry 6, 32, 66, 79, 93, 112
Drives, Machine 13, 41, 94, 101
Drives, Variable Speed 10, 16, 29, 32, 41, 42, 46, 49, 51, 75, 108
Dryers, Hand 39
Drying Equipment 62, 78
Duct 98
Dust Collectors 17, 38, 42, 50, 59, 81, 84, 98, 109

E

Electric Plants 80, 106
Electronic Equipment 5, 9, 27, 71
Elevating Equipment 1, 10, 13, 19, 22, 37, 52, 53, 55, 72, 84, 88, 93
Engines, Industrial 105
Engraving Machines 104
Envelopes, Transparent 8

F

Fabricating Equipment ..18, 82
Fans & Blowers ..1, 3, 31, 38, 40, 82, 83, 102, 110, 113, 114
Fastening Devices 10, 13, 16, 18, 19, 20, 23, 27, 31, 35, 41, 42, 43, 45, 47, 53, 63, 71, 74, 87, 91, 92, 101, 102, 108, 110, 113, 117
Faucet Repairs 111
Faucets 99
Feeders 5, 6, 7, 12, 15, 16, 18, 25, 42, 48, 52, 54, 65, 66, 80, 104, 112
Felt Products 13, 98
Filtering Equipment 5, 28, 29, 31, 60, 61, 89, 102, 103, 104, 106, 108
Finishes 11, 86, 115
Finishing Equipment 23, 26, 42, 45, 54, 74
Fire Extinguishing Equipment 34, 76
Flexible Shaft Equipment .. 67
Floor Machines ..29, 64, 84, 110
Flooring Materials 11, 13, 22, 62, 76, 83, 99, 107, 120
Foundry Equipment 80
Furnaces, Industrial 56, 66, 89
Fuses 60, 61

G

Gages, Level 63
Gages, Precision 12, 15, 24, 33, 37, 52, 92, 99, 105, 110
Gages, Pressure & Temperature 22, 45, 48, 100
Gearing 51, 66, 95
Generators, Steam 50, 68
Glass Products 27, 56, 105
Gloves, Industrial 7, 15, 47, 54, 58, 63, 81, 88, 108
Goggles 91, 107
Grating 2, 62, 76
Grinding Equipment 14, 15, 30, 38, 42, 45, 116

H

Hammers & Mallets 14, 81
Hardware 65
Heat Exchangers 43, 59, 78, 114
Heaters, Compound 16, 25
Heaters, Electric 4, 8, 50, 75, 79, 83, 89, 96, 102
Heaters, Electronic & Induction 38, 49, 67
Hoists 12, 22, 25, 30, 47, 62, 68, 70, 73, 85, 93, 99, 114
Holloware, Fiber 46
Honing Equipment 74
Hose & Fittings 8, 21, 24, 36, 47, 63, 64, 71, 76, 83, 100, 112, 120

I

Indicators, Flow ..9, 26, 58, 98
Indicators, Pressure & Temperature 44, 46, 75, 114
Infrared Equipment 50
Inspection Equipment 8, 40, 63, 85, 103, 112, 114, 115, 119, 120
Instruments, Electric 40
Insulation, Electric 27, 44, 77, 91, 113
Insulation, Thermal 69

J

Jacks 3
Jacks, Leveling 70, 76, 109, 116
Jigs & Fixtures 118
Joints, Rotating 4, 39
Joints, Universal ...64, 108, 112

L

Labels & Nameplates 63, 69
Ladders 6, 53, 70, 73
Lagging, Pulley 8
Laminated Materials 98, 104, 111
Lighting Equipment 6, 9, 18, 69, 74, 114
Lights, Pilot 18, 49
Lockers & Shelving .34, 94, 116
Lubricating Equipment & Materials 23, 24, 28, 54, 56, 89, 97, 104, 105, 117

M

Machine Tool Accessories 2, 7, 43, 44, 60, 79, 83, 94, 100, 104, 112
Machine Tools 10, 22, 27, 52, 57, 67, 76, 80, 83, 104, 112
Magnetic Equipment 10, 46, 101, 105, 114, 119
Marking Equipment 14, 29, 30, 37, 39, 57, 61, 77, 83, 110
Materials Handling Equipment 1, 7, 19, 26, 29, 30, 36, 46, 54, 57, 60, 61, 68, 71, 72, 81, 86, 90, 94, 97, 104
Materials Handling, Overhead 34, 41, 43, 47, 65, 73, 109
Mats, Floor 91, 105
Meters, Flow 9, 26, 59, 62
Meters, Tong Test 26
Mixing Equipment 2, 30, 50, 77, 107
Models 105
Mold Release 55,77
Motors, Air & Hydraulic 89
Motors, Electric 2, 4, 9, 13, 38, 42, 52, 64, 71, 75, 85, 96

N

Nailing Machines 93
Nozzles, Spray 27, 59, 61, 66, 100
Nuclear Products 98
Nuts 26, 43, 47, 53, 63, 87, 101

O

Office Equipment 18, 19, 29, 50, 111, 117
Ovens, Industrial 32, 42, 89, 100

P

Packaging Equipment & Materials 3, 6, 49, 52, 54, 82, 101, 116
Packings & Caskets 2, 23, 25, 82, 99, 101, 110
Pads, Cutting 41
Paper Products 10
Parts, Precision 42, 51
Pens, Chart 58
Photoelectric Equipment 3, 8, 91
Photographic Equipment 11, 46
Pipe & Fittings 1, 7, 30, 56, 61, 73, 80, 87, 98, 99, 104, 106, 110, 117
Pipe & Thread Compounds 40, 54, 69
Pipe Tools & Machines 81, 97
Plastics 17, 27, 83, 99, 108, 117, 118
Plating Equipment 5, 34
Plugs & Caps 10, 97, 102
Plywood 9
Power Units, Electric 1, 30
Power Units, Hydraulic 12, 16, 51, 106
Presses 25, 32, 34, 37, 45, 55, 78, 81, 93, 105, 111, 117, 120
Presses, Molding 90
Production Facilities ...102, 112
Projectors 69, 103
Pullers 12, 99
Pulleys & Sheaves 2, 16, 26, 63
Pumps 12, 16, 21, 28, 35, 37, 43, 48, 51, 53, 60, 65, 75, 88, 92, 93, 97, 98, 106, 108, 110, 115
Pumps, Air & Vacuum 79, 85, 110
Pumps, Chemical 114
Punches 5, 48, 79
Punch Press Sets 103

R

Racks 7, 57, 67, 99, 104, 110
Recorder, Industrial 5, 44
Rectifiers 59, 100
Reels, Cord 6
Reels, Hose 58
Reels, Stock 59, 75, 84, 106
Refrigeration Equipment ..28, 43
Regulators, Voltage 71
Relays 51, 94, 119
Reproduction Equipment & Materials ..15, 34, 37, 68, 106
Resistors 87
Respirators 8, 62, 89
Rings 14
Riveting Equipment 19, 50
Rod, Threaded 38, 100
Rolls 11
Roofing Materials 107
Rubber Products 51, 76, 107, 110
Rubber, Synthetic 62, 85, 100
Rules, Tape 87
Rust Preventives 116

S

Safety Equipment 2, 4, 6, 9, 10, 17, 22, 23, 25, 35, 47, 56, 62, 76, 83, 91, 104, 108, 111, 115
Saw Blades 5, 30, 36, 92, 97, 102
Saws, Metal & Wood 9, 33, 62, 68, 92, 95, 100, 107
Scaffolding 7, 15, 53, 67, 104
Scales 54, 61, 79, 86, 104
Screens 111
Screwdrivers 103
Screwdrivers, Power 42
Screws 20, 35, 87, 93
Screws, Ball Bearing 106
Seals & Sealants 47, 50, 68, 77
Separators 116
Sharpeners, Saw 76
Shears 88, 117
Shims 25, 82
Shop Equipment 17, 70, 72, 92, 96, 112
Signals 23, 89
Silicones 55
Sleeves 69
Slitters & Rewinders 117
Snubbers, Exhaust 67
Sockets, Impact 88
Soldering Equipment & Materials 29, 31, 34, 43, 51, 68, 101, 109, 113, 120
Solenoids 43, 52, 80, 115
Speed Reducers 17, 27, 28, 70, 74, 85, 92, 94, 108
Splitting Machines 65
Spray Equipment 27, 47, 59, 61, 66, 100
Spreaders 18, 86
Springs 40, 91
Sprockets 2, 95
Stampings 10
Stapling Equipment ..17, 27, 97
Steel 84, 90, 100, 109, 118
Step Block & Clamp Sets .. 103
Straighteners 13, 73
Strapping, Steel 44, 71, 114
Strippers 78

T

T-Nut & Stud Sets 103
Tables 53, 82
Tables, Indexing 20
Tachometers 24
Tackers 17, 27
Tape, Industrial 44, 82, 116
Tapping Attachments & Equipment 7, 41
Television, Industrial ...47, 96
Testing Equipment 2, 5, 12, 15, 18, 19, 22, 24, 37, 57, 58, 62, 76, 95, 99, 102, 111
Thermometers 25, 39, 78, 96, 104
Timing Devices 5, 36, 65, 84
Tires, Industrial 19, 23, 35
Tools, Cleaning 11
Tools, Cutting 7, 11, 33, 44, 57, 71, 79, 105, 110, 112
Tools, Diamond 101
Tools, Hand ..29, 58, 60, 87, 88
Tools, Pneumatic 14, 37, 48, 65
Tools, Portable Electric 24, 32, 70, 96, 120
Track & Accessories 6, 65
Tractors, Industrial 56
Traps, Air & Steam 17, 28, 49, 51, 53
Trolleys 7, 12, 22
Trucks, Hand 2, 20, 26, 39, 53, 79, 90, 111, 112
Trucks, Industrial Power 10, 16, 22, 31, 33, 40, 44, 52, 60, 75, 77, 79, 92, 95, 98, 102, 112, 116
Tubing & Fittings 11, 12, 35, 61, 62, 69, 83, 87, 101, 109, 110

U

Ultrasonic Equipment ..9, 72, 95

V

Vacuum Equipment 72
Valves 1, 3, 13, 23, 24, 28, 31, 45, 46, 47, 48, 49, 58, 63, 67, 70, 72, 85, 87, 89, 104, 114
Ventilating Equipment 19, 77, 84, 102
Vibration Absorbers 6, 14, 33, 70, 76, 109, 116
Vibrators 40, 66, 112
Vises 111, 115

W

Washers 1, 25, 72
Washroom Equipment 20, 39, 41, 112, 120
Water Heaters 62
Water Treatment 120
Waterproofing 117
Welding Equipment 31, 35, 48, 49, 64, 69, 82, 93, 110, 113
Wheels, Industrial 115
Winding Equipment 20
Wire 49
Wire Cloth & Screen 71, 85
Wire, Electric 6, 16, 29, 98, 114, 116
Wire Rope & Fittings 112
Wire Specialties 14, 25, 98
Wiring Devices 7, 17, 28, 30, 33, 35, 43, 45, 57, 61, 66, 70, 77, 78, 89, 95, 102, 104, 109, 110, 117
Workbenches & Tops 73, 92
Wrenches 11, 57, 58

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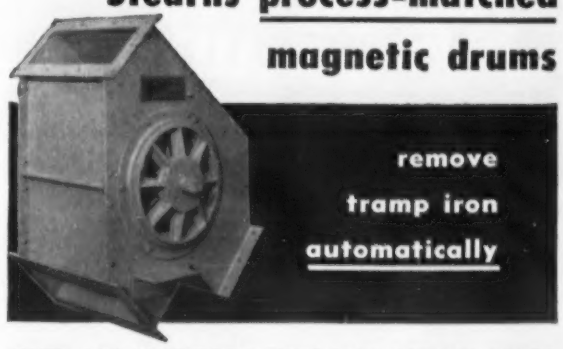

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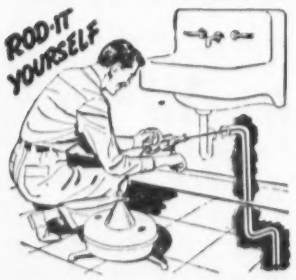

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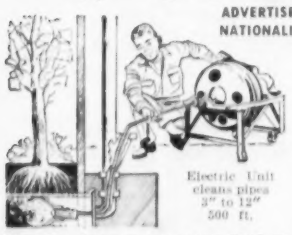

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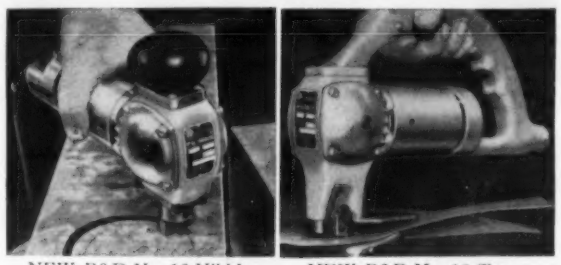

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